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Editorial Notes

IN September we printed eight more pages than usual in ANTIQUITY and we do so again in this number. We now print *more* review-matter in each number than before the war; and although thinner paper makes the size look smaller, the total contents of ANTIQUITY are only less by one-third than the pre-war issues. The increase in price (to 30 shillings) is generally agreed by our subscribers to be both just and necessary, and we are glad to say that our circulation has hardly been affected by it. If ANTIQUITY were as necessary to life as are food and clothing we should be charging about twice as much for it, and getting it, as one of our readers pointed out to us. But we are able to survive and flourish, and there is no lowering of the standard. We once more thank those who, by their continued support, enable us to achieve this satisfactory result, reminding them that early renewals of their subscriptions (now due) are greatly appreciated.

The Editor has had several letters enquiring about the results of his Sudan expedition at the beginning of this year. These results will be published by the Sudan Government, but he hopes to print an account also in ANTIQUITY. It will be based upon a lecture which he is giving to the British Academy on December 10th next (5.0 p.m.); admission to the lecture is by invitation, but we understand that, provided there is room, tickets may be available on application to the assistant-secretary of the British Academy (Burlington Gardens, London, W.1). It will be illustrated by lantern-slides made from the photographs taken and the plans made. The chief subjects dealt with will be neolithic rock-pictures and the castles and churches of the Sudan (Middle Nile region) during the medieval Christian period. Many are new discoveries and all are hitherto unrecorded.

Radiocarbon dating, already well known to readers of ANTIQUITY (see Nos. 100, December 1951, and 101, March 1952) is quickly taking its place as a key to the chief problem of archaeology, which is to construct a system of absolute chronology. The dates given will gradually increase in value as they become more numerous; it will not be

until *many* samples from different sites have been dated that we shall be able confidently to determine the range in time of a given culture. Already a few freakish results have appeared to warn us not to put too much trust in a single analysis; though the cause of these aberrations is unknown, there is no reason to attribute it to the method. The need for an accumulation of dates being recognized, the corresponding need of having them regularly presented in a form convenient for constant reference will be obvious. That need so far has not been met; publication lags behind performance. Archaeologists eagerly await each release, but generally first hear of the dates ascertained in a confidential letter or conversation. The published facts are not always easily accessible. Perhaps all this is to some extent inevitable at this early stage in the development of a new technique, and we hasten to add that our criticisms are made in no carping spirit but with a sincere desire to suggest a remedy. We archaeologists owe the discoverers an enormous debt of gratitude both for the revolutionary discovery itself and for the measures they have taken to use it for the advancement of archaeology. These measures must have involved much labour and expense which they, not we, have contributed.

Here is an outstanding example of the dependence of workers in one field upon those in another. In such cases coordination by some body concerned with science as a whole would seem to be indicated. One thinks at once of such famous foundations as the Smithsonian and the Carnegie Institute, or of the various national museums. What working archaeologists need is the regular publication of a concise list of all the dates ascertained, with the usual brief facts of provenance. Such publication might be annual and take the form of a special Bulletin, which would be assured of a wide circulation, if launched with the necessary publicity. Archaeological museums and the libraries of archaeological societies would have to take it in, as it would be indispensable. The cost of printing or multigraphing would not be great, as the information would be concisely stated. The longer this problem remains unsolved the more difficult it will become, for results are accumulating rapidly.

The word *glacis* is a technical term of military architecture, used to denote part of a circumvallation. It is a loan-word from French and originally denoted a ' place made slippery by frozen rain ' (O.E.D.). By analogy it was applied to a sloping revetted surface beyond the *counterscarp*, on the outer side of the ditch surrounding a fortress. This was designed so as to be swept by fire from the ramparts, and was naturally made as smooth as possible—hence the name. Archaeologists, however, have used the word *glacis* to describe the revetted inner wall of the *ditch* which in military parlance is called the *escarp*. In many prehistoric defences the *escarp* slopes less steeply than in those of modern times, though always more steeply than a *glacis*. The intention of those who miscall an *escarp* a *glacis* is probably to indicate that the *escarp* was revetted—for many were not. But a *revetted escarp* is not a *glacis*; and if technical terms are borrowed they should be used correctly. In her recent article on Early Jericho (September, p. 118), Miss Kenyon acknowledges the incorrectness of her use of *glacis*, to which Colonel Sir Charles Arden-Close had called her attention; but she proposed to continue using it because the term had became so well established in Palestinian archaeology. Returning to the charge in a friendly letter Sir Charles expresses the hope that ' it is not too late to

stop this incorrect use of a well-known technical term'. He refers to Humpty Dumpty who claimed that a word meant what he wanted it to mean; but we do not know whether his claim was generally admitted as an unfortunate accident ended his career. The blasts of Joshua's trumpets could not entirely destroy the walls of Jericho, and it seems doubtful whether those of Sir Charles and the Editor combined will shatter an established but erroneous terminology. However this may be, a great gulf (or *ditch*) is fixed between the *revetted escarp* and the *glacis* in profane lands. Perhaps after Christmas an agreed solution will emerge.

Archaeology and the Transmission of Ideas*

by Sir Mortimer Wheeler

THIS lecture was written on shipboard in an untidy sea, and, if its matter and its sentiment pitch and toss a trifle, you may properly expect me, as an archaeologist, to blame environment. I belong in fact to a generation of students who have learned to make something of a fetish of environment, even at the expense of forgetting occasionally the extent to which we are the authors of that same environment. It is not difficult to think of examples where mankind has created a desert and called it civilization ; and when in the long run the desert wins, as is its habit, we once again short-circuit logic and arraign environment.

Today I want if possible to subordinate environment as a dominant factor and to invite attention for a while to the transmission of ideas from place to place extra-environmentally, bridging the chasms between environment and environment, and providing that intellectual nexus which seems in our present-day affairs to elude us as often as we reach out for it.

In this attempt I would make it clear that I have no desire to revive the worn-out controversy which amused us for a while a generation ago. I refer of course to the ancient battle between the diffusionists and the separatists : between those who would derive similar ideas from a single common source and those who advocate the multiple and independent invention of such ideas. Today we are all essentially diffusionists, in moderation ; we may say that the theory of diffusionism has proved its strength by surviving the speciousness of its own advocates. At the same time we need not exclude the possibility that two different men, living in two different places and ages and without cross-reference, may both have invented the safety-pin. Our modern philosophy is perhaps that of *Animal Farm* : diffusionism and separatism are of equal value, but diffusionism is the more equal of the two.

What I am concerned with today, however, is something rather different, if not altogether unrelated. As an archaeologist my métier is the description and discussion of material things : pots and pans and penknives, hearths and ashpits, the *disjecta membra* of the past. And from time to time, I must freely confess it, I am filled with doubt as to the uniform significance of this laborious task. I have quoted Polybius in this context,[1] and unblushingly do so again :—' Those who believe ', says the wise Polybius, ' that they can obtain a proper general understanding of history from a study of its fragments are much in the position of those who might think that they could comprehend the life and beauty of a living thing from the *disjecta* of its once living body '.

Or again, as I would put it, the archaeologist will find the tub and will completely miss Diogenes. He will write profound papers on the Typology of Tubs ; he will classify Tubs in categories A, B and C ; he will discover a Tub-bearing Folk and plot their wanderings upon geophysical and phytographical maps. Provided that his views are not too revolutionary, he may aspire to become a Fellow of a Learned Society. *Only*, he

* This is the substance of the Marett Memorial Lecture given at Exeter College, Oxford, on 7th June, 1952, and here printed in its lecture form.

[1] In Antiquity xxiv (1950), 126, where I have discussed the question of values at greater length.

has overlooked, and could not help overlooking, the one significant thing about that Tub, namely, that it sheltered the eminent Cynic and symbolized his philosophy for all time.

To put it differently, we must, I am afraid, confess it, that we archaeologists, most of us, are very little more than grammarians.

We are at any rate inordinately occupied with the *grammar* of our subjects. Our midnight oil flickers drearily over scraps of pottery, chips of stone, flotsam and jetsam of one kind and another, which we group in small crossword patterns and label 'cultures'. Now and then, but all too rarely, we remind ourselves of the fortuitous and incomplete character of these 'cultures'; for the most part, we are content in practice to regard them as entities and to move them round the board as chessmen in an eternal game of skill and chance.

And that that is a part of our job I should be the last to deny. Admittedly, sound grammar is a part of scholarship; but admittedly also, the codification of grammatical (or archaeological) minutiae is only a small part of scholarship, and my complaint is that, at the present time, archaeology has too few larger aims in view. Let us confess it: we are bedded down in a patch of stony soil, when some at least of us should be ranging over the wide horizons. Where today are our Schliemanns, our Flinders Petries, our Arthur Evanses, our John Marshalls? Men who, after their various fashions, added whole civilizations to our knowledge and on a broad impressionist canvas enlarged our comprehension of human achievement a hundredfold? Is our world grown so small, is there so little of magnitude left to do? Must we henceforth for ever foreswear the epic and content ourselves with syntax and gender-rhymes? Have we no young men with the imagination to raise archaeology once more to its place amongst the humanities? Or are we to degenerate into technicians, as a recent American writer would have it. Listen to him; for he fortifies himself with a bibliography of 612 authorities. He says 'Archaeology *per se* is no more than a method and a set of specialized techniques for the gathering of cultural information. The archaeologist, as archaeologist, is really nothing but a technician'. Do you believe that? I don't, for a single moment, but we must admit that our American friend has certainly scored a debating point.

For, let me repeat, Where today are our giants, our men of large understanding, of imagination? Their work awaits them, plain for all to see. In Asia alone are as good fish as ever came out of it. Examples leap to the mind. Away out on the steppe of Afghan Turkestan lies the great buried city, 7 miles in circumference, where Greek and Chinaman, Indian and Turkoman, met century after century to barter goods and ideas. Five hundred miles from it, on the arterial plain of Peshawar, towers another city which was already a metropolis before Alexander the Great received its submission in the year 326. Today its great mounds rise 100 feet above the plain into which they are slowly dissolving. Here are nodal points in the history of civilization: at present we know nothing of them. And there are countless others, awaiting the young man—let me say, if you will, the young Oxford man—with the imagination and the determination to add to substantive *knowledge*, not merely to accumulate and peddle *information*.

Our trouble is that we are, as it seems to me, becoming excessively insular in these matters. Politically, the world is shrinking upon us British folk and culturally we insufficiently resist the shrinkage. The work which in fact we do is on the whole pretty good within its limits; but its limits are pitifully too narrow. The great Haverfield did us for a time a sterling service in giving our classics a local application; Romano-British archaeology has reached an uncommonly high level of technical excellence; but it has also diverted into a relatively insignificant channel talent which might have been more amply deployed. Not long ago a young Cambridge graduate came to me for advice

as one about to undertake the study of Roman Britain. My advice was that given once by Mr Punch in other circumstances : *Don't.* Instead, I bade him take a jeep, go to North Africa, stake out a strip of Libya 50 miles wide and in depth from the sea to the Sahara, and make a complete surface record of what he saw there. On the strength of his first reconnaissances he has climbed into a Trinity fellowship, and deservedly, for he is rapidly adding significant matter to our very imperfect knowledge of one of the richest provinces of the Roman Empire. That is a task well worth the doing. For a parallel problem on an even more productive scale I commend unreservedly the study of northern Iraq between the 1st and 6th centuries A.D. Sir Aurel Stein and others have shown us that upstanding remains abound there : behind them is a thin but useful historical narrative ; and results can be guaranteed if the attack is steadfast. We may be glad, incidentally, to know that the Iraqis themselves are at last tackling one very relevant problem there, that romantic Arab stronghold, Hatra, away out in the desert between the Rivers, and tackling it (I understand) with more success than fell to the lot either of Trajan or of Septimius Severus, hard enough though they tried.

My first plea then is for the broadening of the basis of our archaeological research. Let us train here at home, where opportunity under close criticism is abundantly available. But let those of us at least who are busied with pre-medieval antiquity unashamedly cultivate that ' fatigue du nord ' which, as Madame de Stäel observed, drove Winckelmann to his life's work in the south. Let us follow and overtake him in the lands of the sun where pre-medieval man of many eras found his fullest fruition, expressed himself most eloquently and had most to tell us about his reactions to life and his neighbours.

That appeal brings me to the second and main point of my remarks this evening. Even a generously equipped civilization such as I have just envisaged may conceal from us a very great deal of its essence. Social anthropologists are constantly lamenting the difficulties which they experience in extracting significant truths from the living subjects of their study. It is scarcely to be hoped that purely material debris will be more eloquent. Some ancient civilizations are of course more vivacious and informative than others. Some, on the other hand, have filled museums and still leave us guessing. Of one of the latter civilizations I would now say something, taking it merely as an illustration of principle, not as a substantive study.

In 1924 Sir John Marshall, then Director General of Archaeology in India, announced in the *Illustrated London News* the discovery of a new civilization. Its habitat was the great plain of the river Indus, which in its lower course flanks the south-eastern bulwarks of the Persian plateau. Today we can identify over 60 sites of that civilization, extending for 1000 miles from the Arabian Sea to the foot-hills of the Himalaya, an area twice that occupied by either of the partially contemporary riverine civilizations of Mesopotamia and Egypt. In date, the Indus civilization flourished round about 2000 B.C. We cannot affirm that it existed much before 2500 B.C. or much after 1500 B.C.

This great civilization was literate, but its language, like that of the Minoans or the Aztecs, cannot at present be read. Its ' hieroglyphs ', if such we may call the elements of its notation, are unique. They represent a relatively mature pictographic script having no known roots or affinities ; showing no kinship, for example, with the script of its senior neighbour, Mesopotamia.

This is number 1 point. Number 2 is this : the civic life of the great Indus capitals, Harappa and Mohenjo-daro, was, in its prime, of a highly developed order. At Mohenjo-daro, the better-known site, the town is rigidly and regularly laid out in oblong blocks or *insulae*, with broad main streets and a far more adequate drainage-system than any non-Westernized Asiatic town is likely to show today. I shall say more about these

features presently. Rule was focused on a high-standing citadel, shared by a religious and secular hierarchy which was doubtless indivisible.

Two outstanding features, then, of the Indus civilization are a fairly evolved script and an evolved and disciplined civic life : two very notable landmarks in the progress of human society. Exactly the same features are of course, in general terms, familiar to us in the Mesopotamian civilization, which may be nearly a millennium earlier in its adolescence. Now Ur of the Chaldees is 1400 miles, Susa 1200 miles from Mohenjo-daro, but the deltas of the Twin Rivers and the Indus are connected by an easily navigated Gulf and by a coastal belt which, in the desiccated condition of a later age, was still traversable, however reluctantly, by Alexander's tired army. If, then, we ask, 'Whence, in the middle of the 3rd millennium B.C., did the Indus folk derive those two essentials of civilization, writing and city-life?' the answer would appear to be an easy one: surely from the mature cities of neighbouring Mesopotamia. But wait a minute.

The problem is not so simple as the bare statement of principle might imply. When we look beyond general principle to detail, it is the *differences* between the two civilizations that impress us at every turn. I shall mention some of these differences a little later; meanwhile it will suffice to say that a citizen of Ur in Mesopotamia would have found himself in a substantially alien world, had he been transported to a street of Mohenjo-daro in the Indus valley. Ideas even in so portable a form as improved tools and weapons failed to reach the conservative Indus citizens, who obstinately clung to rudimentary types long outmoded in the West and North-west. And once more let me emphasize the complete dissimilarity between the two scripts, whose only community lies in the *basic idea of writing*.

Basic ideas: can we postulate a traffic in *basic ideas* devoid of all material interresemblance? At this stage archaeology threatens perilously to encroach upon philosophy, and I for one rejoice in the peril. In an age when materialism threatens on all hands to clog our thinking, and not least our archaeological thinking, I should like to believe for a moment that there is an archaeology of ideas, an archaeology that we cannot imprison in a museum-case, an archaeology that is something more than a superior sort of philately. In stating that aspiration, however, I am reversing the actual process of thought. Let me explain.

I was standing one hot summer's morning amidst the upstanding remains of a remarkable palace near Agra,[2] in the vast plains of northern India. The palace had been built by the third and grandest of the Grand Moghuls, Akbar the Great, in the time of our Queen Elizabeth I, on a patch of desert chosen for the fortuitous reason that Akbar's holy tutor had lived hereabouts. Unfortunately for the project, its designer had failed to consider that the amount of water required by a Muslim saint was disproportionately less than that required by a capital city, and within a single generation the new capital was the dead, desiccated, jackal-haunted monument that it is today. Early in the 17th century an English visitor could already describe it as 'ruinate, lying like a waste district and very dangerous to pass through at night'. To wander through its empty halls is today an experience not lightly forgotten. They have all the features apt to Muslim religious, administrative and domestic life on the grand scale: the diwans of public and private audience, the treasury, the stables, the hammams, the harems, the pavilions and observatories, the towering cathedral-mosque, the floor-ring to which (it is said) was tethered the rogue elephant retained for summary executions, the variegated chequerboard pavement upon which (again, it is said) dancing-girls stepped out the game of backgammon with the

[2] At Fathpur Sikri. See E. W. Smith, *The Moghul Architecture of Fathpur Sikri* (Allahabad, 1894), and M. A. Husain, *A Guide to Fatehpur Sikri* (Delhi, 1937).

deliberation of a slow-motion ballet, the high gate where the imperial fifes and drums noisily heralded arrival or departure, the plashing water laboriously elevated by a vast machine to this barren spot. But amidst these kaleidoscopic memories, one impression remains dominant : that of the alien, non-Islamic idiom in which the conventional Islamic concepts are expressed.

To carry this impression to those who have not stood in the footsteps of Akbar demands a brief reminder of certain basic facts, for which I must beseech your momentary patience. I need scarcely recall to you that Muslim architecture, with the Prophet himself, was born of the desert. It was nurtured amidst broad, bare horizons, broken if at all by the hard geometry of rocky ranges. In conformity with this setting, its most distinctive architectural expression is a simple cube or group of cubes, with rigid outlines interrupted only by a sudden mountainous dome or a spiky minaret. Within all this rigidity the surface may be variegated by tilery or painting or flat carving, but the geometrical framework remains the dominant note.

Now when invasion carried this austere tradition to the Indian sub-continent, it would have been difficult to find a more completely alien landscape into which to transplant it. Medieval India was first and foremost a land of jungle and of close horizons. Today, with a quadrupled population and organized development, it is difficult to realize the former extent of 'the trackless, pathless, boundless forests' in which Rāma and Sita and the Pandavas of Indian epic moved and had their being. The medieval architecture of Hindustan is fraught with the influence of this jungle setting. Swarming, monstrous, sinister, fantastically beautiful, its tangled background is reflected in the often monstrous and sinister sculpture which envelopes the tortured surfaces of the Hindu temple ; in the guarded depths of which, in the no less mysterious darkness of a small flower-decked cell, lurks the ultimate godhead in the pale flicker of an oil-lamp. Nothing could stand in greater contrast to this luxuriant and recondite jungle art and architecture than the solemn sobriety and open airiness of the architecture of the desert. In the whole history of building, there is no more fascinating episode than that of the reconciliation of these two traditions—as in India reconciled they were.

One example of this reconciliation will suffice, though many could be given. As we tread the vacant courts of the derelict Moghul capital to which I have invited you near Agra, we come to the little building, still intact, where the sultan received his favoured visitors in private audience. This is normally in the Islamic world an arcaded tent-like pavilion with a raised floor whereon the becushioned host reclined, overlooking a garden to which his guests were admitted. Not so is the remarkable structure which we are now approaching. It rises two stages high, girt with carved verandah and cornice and crowned by airy pavilions. Within, in the midst of the tall reception-chamber, rises a carved column, branching weirdly tree-like into thirty-two knarled and twisted brackets upon which at a height of 14 feet above the floor, rests the exalted throne-platform behind lace-work balustrades. Thence to the four corners of the building air-borne passages offer access to the balcony which snake-like brackets carry round the room. Here and there the discerning eye may identify carved enrichment from the far-off western highlands, but the whole conception is that of a petrified jungle growth, a fantasy of Hindustan as alien to the traditions of Islam as are the tropics to the stony plateau (*frontispiece*).

Truly there is no building like this in the home of Islam : Persia, all Arabia, cannot show the image of it. Functionally it represents a normal feature of the palace plan and few but good Muslims used it. In other terms, the *idea* of it was an integral convention of the intrusive Moghul administration. But architecturally and artistically it is, as I

say, a native Hindu extravaganza, and nothing else. So also in varying degrees are the other buildings which frame its horizon : the piled pavilions of the observatory, the massively carved verandahs of the harems, even the fretted outline of the great mosque itself. The *idea* of mosque and to some extent that of pavilion came with the invader from the plateau and the desert. Nevertheless, here the *expression* of the idea is Indian again and again. The austerity of the desert has on all sides been tempered and clothed by the diversity of the jungle ; so much so that we are constantly faced with the fact that the idea itself has become little more than an abstraction ; transmitted, as history tells us, but materially almost utterly transformed.

Here, in an example closely controlled by written record, we have, I venture to think, something of considerable importance to us when we come to analyse cultural inter-relationships beyond the reach of writing. We archaeologists are, no doubt properly but, I suggest, sometimes excessively, bound by material evidence. Had our Moghul palace with its dominant Hindu aspect been four millennia instead of merely four centuries old I know not what theses we should have boiled out of it ; scarcely, I suspect, the truth, that, in spite of its overwhelmingly native quality, it represented the most successful and far-reaching alien domination of India in pre-British times. We may sometimes forget—perhaps we are wise in forgetting—that ideas have wings and are liable to flit airily about our prehistoric as about our historic landscape, with a baffling intangibility or disguise. Governed by that thought I am now going to return to the problem of the prehistoric Indus Civilization of which I made some mention at the outset.

At the risk of weariness, let me analyse a little further the points of similarity and contrast between the Indus Civilization and its older contemporary in Mesopotamia. Both represent an evolved city-life expressed in cities up to 3 or 4 miles in circumference. Both, at the end of the 3rd millennium, exhibited town-planning, although in Mesopotamia Ur incorporates from its early beginnings a rambling village lane or two, much as the grid-plan of New York fits uneasily on to the rural vagaries of its pre-civic Broadway. This variant feature suggests that at Ur (as at New York) we have the whole process of evolution from village to city, whereas in the Indus valley the civic idea was already mature when Mohenjo-daro took shape. Architecturally, the Mesopotamian cities are largely of mud brick whereas the Indus cities are typically of baked brick, but that is presumably a matter of climate. Connected with this factor is the occasional use of the voussoir-arch in Mesopotamia as against the invariable use of the corbel-arch in the Indus region. And the combination of baked bricks with a damp climate stimulated the Indus folk to build drains to an extent unparalleled elsewhere in the ancient East. Drains everywhere. The houses and streets of Mohenjo-daro are packed with drains, scrupulously equipped with manholes for their better clearance. Nor did the idea of sanitation end there : in the Mohenjo-daro houses, upstairs or down, are little garderobes which hold an honourable priority in the history of domestic convenience—a priority scarcely challenged by the rare occurrence of a similar contrivance in Mesopotamia. But when we consider the generalities of architectural design the contrast between the two civilizations is striking. The seeming simplicity, amounting to parsimony, of detail in the Indus buildings is no counterpart to the elaborate panelling and variegated colouring of the more monumental structures of Sumer. Whether the Indus folk, like their successors in the sub-continent, compensated by the use of carved timber, we shall never know. It may be that they imported stone dressings to a rather larger extent than has been realized ; I cannot forget that in my last cuttings at Mohenjo-daro in 1950 I found ribbed marble and polished limestone blocks prepared for use on a timber framework which had apparently included columns. Nevertheless, the unquestionable fact remains

that the architectural aspect of the two regions had little or nothing in common. There is far more resemblance between a Mesopotamian ziggurat of the 25th century B.C. and a Mexican temple-pyramid of the 15th century A.D. than between the former and the contemporary citadels and monuments of the Indus valley.

So too with the arts and crafts. I need not go through them categorically, but to emphasize at the same time their separateness and their parallelism in the two civilizations I may cite one or two of them. The representational art of the two regions we may dismiss with the remark that there is no apparent nexus whatsoever between them. Of more interest is the extensive use of sealstones in both regions, and here, as in matters of town-planning and writing and indeed in the general principle of civilization, there is a potential link for consideration. But the famous square seals of the Indus valley with their vivid representations of animals—life-like bulls and elephants, rhinoceros, tiger, crocodiles—have nothing to do, save in the abstract *idea* of sealing, with the seals of Mesopotamia. And of the isolation of the Indus script, preserved to us on seals and potsherds, I have already spoken. The abstract *idea* of writing is here again the only connection with the outside world. Occasional traffic between the two river systems, whether by sea or land, as represented by a few Indus objects in Mesopotamia or Mesopotamian objects in the Indus valley, is not now at issue. Even the occurrence on a few of the Indus seals of a figure resembling the familiar Gilgamesh of Sumer—a Gilgamesh, be it noted, here equipped appropriately with tigers in place of the traditional Mesopotamian lions—may imply a common source rather than an inter-borrowing. All in all, save for a sharing of certain abstract *ideas*, the two civilizations stand strangely apart from each other.

At this point a word is again necessary about relative chronology. I have said that in origin the Mesopotamian civilization is the older of the two. More precisely, we may say that, in Mesopotamia, civilization in the full sense of the term was taking shape about the middle of the 4th millennium. By 3000 B.C., and perhaps considerably earlier, it was mature. On the other hand, let me repeat that recent re-assessments of Indus chronology by Professor Stuart Piggott and myself have suggested a date about 2500 B.C. for the early maturity of the Indus civilization, and in the light of the deflationary trend of protohistoric chronology in Asia I doubt whether it will now be pushed back to an appreciably higher period. In other words, the Indus cities are, by a comfortable margin, the younger contemporaries of those of Sumer and Akkad, and, in so far as there was an interchange of basic ideas, must be regarded as the receivers rather than as the donors.

Let us now sum up. At a time when civilization was a new phenomenon, the idea materialized on a large scale in succession on the two flanks of the Persian highland. Within the complex conception of city-life, the two civilizations shared in varying degrees such fundamental and revolutionary ideas as town-planning and writing. Some integral community of inspiration in these matters is difficult—I would say, impossible—not to postulate. So different, however, are the forms of expression within the two parallel civilizations that anything approaching a literal colonization of the one from the other is unthinkable. What then are the mechanics of the business? There is no mystery about the physical transmission of our own alphabet, for instance, from Greece to Italy; but there is every sort of mystery in the thought of the transmission of a *disembodied idea* of writing from the Euphrates to the Indus. What is the answer?

If the idea *was* in fact disembodied in any literal sense of the term, we are left with the obvious and difficult question: What then did the one region in fact receive from the other? How is it possible to conceive an *idea* of writing save as an *embodied* script?

Or an *idea* of civilization save in a *builded* Babylon ? Seals and such fry are another and easier matter. Pendants which could be used as seals were already current in northern Mesopotamia as early as the 5th millennium B.C., when civilization was still a distant cloud no bigger than a man's hand; and multiplying lines of descent would be expected to produce the infinite local varieties of seal which in fact we recognize in the Middle East a millennium or two later. So also with tools and weapons of metal. Such things are of no great import; they do not predicate an evolved society. I have here merely cited their divergence, as between the Indus Valley and Mesopotamia, in order to stress the absence of any significant cultural pooling between the two civilizations. Neither common ancestry nor casual interchange can be conjured up, it would seem, to unite the diversities of the two scripts or of the two civilizations as social phenomena. No supposititious cousinship can be adduced as the easy answer. For Civilization and Writing are the sudden and substantive response to new opportunities and decisive challenges, not, like seals or socketed axes, the incidents of fashion and provision.

Admittedly at any level the colonization of ideas or modes is a strange and complex process. Their power of adaptation would appear to be almost infinite. The recipient or patron alone may exercise an astonishing control over the shape of the skills and notions which he is pleased to patronize. Persian carpets, for example, were needed in America; nevertheless, the makers of the beautiful traditional rugs of Kerman—the aristocracy of their craft—found a poor market in New York until, by a process of systematic enquiry, they discovered that Louis Quinze patterns were the mode there. So they immediately switched over to pseudo-Louis Quinze, and today in the whole of Kerman you will not find a modern Persian rug worth looking at. In New Mexico, the pueblo Indians have never ceased to make magnificent pottery of neolithic or chalcolithic type, with dignified, restrained decoration. But they are Barbarians, and, as every good American patron knows, Barbarians love bright, garish colours. So these poor Indians are now perforce buying up bright exotic reds and blues and yellows, and subordinating their own aesthetic consciousness to the misbegotten concepts of their overlords. My only point here is, that in fashions such as these a skill may be broadcast, as it were, with an altogether *alien* cultural content.

On partial analogy it might, I suppose, be averred that the germ of writing was transplanted from Mesopotamia to India and was there reshaped in some subtle manner by the *genius loci*, to emerge as the Indus script, without detectable transition and with no visual trace of cultural parentage. I do not know. I am not quite happy about it. That absence of material transition from old idea to new form is a little baffling. I am inclined, however, to think that our Islamic parable, our Agra palace of the 16th century A.D., brings us as near to a solution as we can attain. In other words, let us admit that, by a process unknown to natural science but on occasion fully documented by the historian, ideas can and do simultaneously extend their habitat and radically change their specific form. It takes a million years to develop a natural species; perhaps a million seconds to develop an idea. We archaeologists must be prepared to dematerialize our thinking when we consider this vital problem of the diffusion of ideas. The prospect is not a very happy one for us to contemplate. There is a completeness, a satisfaction, about the easy, objective evolution of pot-handles and safety-pins. Intangible things such as ideas are dangerous and treacherous phenomena, and, to an essentially material science, not very respectable. I am afraid that my offer to the archaeologist smacks perilously of blood and tears.

I turn now to another aspect of the transmission of ideas, again using the Indus Civilization as my example. It may be presumed that almost every major effort of the

human intelligence contributes something, however indirectly, to the aggregate of human achievement. It is comforting, however, when as archaeologists or historians we can actually trace the causative sequence and affirm quite precisely that A gave rise to B or that D owed so-and-so to C. In this sense our modern debt to the ancient civilization of *Mesopotamia* is not in doubt ; to illustrate it by small but vivid examples we need merely remind ourselves that such significant commonplaces as the 360-degree circle and the 60-minute hour are an inheritance from that ancient land. But what does the later world owe to the sister-civilization of the Indus ? I ask because we know (or think we know) that in the 2nd millennium B.C. the lands of the Indus were overrun by mobile barbarian invaders, whose triumphant hymnal, the Rigveda, has survived to us as the earliest Indian literature. I ask also because we can say that the best known of the Indus cities, Mohenjo-daro, ceased suddenly to exist, as it were on a Wednesday afternoon at 4 o'clock, never to rise again. Did all that it stood for perish suddenly with it in that hour ? Can we indeed lightly dismiss this civilization as a ' false start ' in the story of human endeavour ?

I have no doubt that the Indus civilization failed in fact long before its actual end ; that the sudden catastrophe to which I have just referred was actually in long preparation. But that is another matter : it is a familiar axiom to economic historians that an age of fulfilment, such as is implied by a great civilization, is accompanied by an increase of population which, after a phase of balance, outstrips food-supply and leads to a decline in standards of living. That is of course happening to us today. It happened nearly 4000 years ago in the Indus valley, and as archaeologists we can still detect symptoms of the process. In the later phases of the city, the houses of Mohenjo-daro are everywhere subdivided into tenements by relatively shoddy party-walls ; streets are encroached upon ; squalor prevails, the squalor of a swarming and increasingly low-grade population, living in a city but with fewer and fewer of the amenities and disciplines of civilization. To such a society, the end may come easily and swiftly, by disease or violence. At Mohenjo-daro, the picture is clear enough. Let me recall it briefly ; for the suddenness and completeness of the disaster sharpen its significance in the present context.

On the highest and latest level of Mohenjo-daro, after the city had been in occupation for perhaps a millennium, the excavators found at several points the evidence of sudden tragedy. Women going to a public well were struck down and their bodies left lying across the steps and in the adjacent street. In another lane lay six skeletons, including a child. Elsewhere, nine skeletons including those of five children were found crowded together in ' contorted attitudes '. Elsewhere again, in the room of a house a dozen men and women and a child were found together in varied positions indicating simultaneous death. And there were others. It has been suggested that a plague was responsible for these sudden deaths, but a plague does not leave the deep gashes which at least two of the skulls exhibit. There can be no doubt that these poor bones represent the victims of a massacre, the handiwork of men who swept suddenly over the city and then passed on. Even in the East one does not live happily or long in a city with the unburied dead lying about in the streets, and it is evident that the slayers did not linger.

On other occasions I and others have given some reason for connecting this episode with the accounts in the Rigveda hymnal of Aryan assaults, somewhere about the middle of the second millennium B.C., on the cities of the Indus system : when the Aryan war-god, Indra, aflame with the fiery drink of the gods, stormed through the countryside, slaying the dusky natives by the ' hundred thousand ' and rending fortresses ' as age consumes a garment '. It may indeed be that the attack on that other great Indus city, Harappa, in the Punjab some 400 miles from Mohenjo-daro, is explicitly mentioned in

the Hymns. There archaeology is at fault owing to the systematic destruction of the upper layers of the site by railway-engineers in the 19th century. In the light of Mohenjo-daro, however, the general picture presented by the Rigveda is clear enough. Materially, the Indus civilization was wiped out ; archaeologically, the episode was closed.

But again wait a moment. Before we dismiss the Indus citizens as a mere archaeological curiosity, there are other points for consideration. The destroyers were uncivilized folk, ignorant of the art of living in cities. We may imagine them, like the barbarian German tribesmen of a later age in Gaul, shrinking in awe from the ghost-ridden ruins of the cities which they had sacked, regarding them as ' graves surrounded with nets ' (I am borrowing the words of Ammianus Marcellinus). And yet, the awesomeness of these newly dead Indus cities must have brought something of its own revenge. Their enslaved survivors, for ever outcast as Dasyus or Dark Folk from the ranks of their fair-skinned Aryan conquerors, must nevertheless have retained the prestige of intimacy with the endemic gods and the traditions of the land, and have passed on something of their secret knowledge as they tended the children of the newcomers. It can be no chance that on certain of the Indus Valley seals we find a squatting deity, horned, tri-faced, ithyphallic, grim, whom Sir John Marshall was doubtless correct in recognizing as the prototype of the sinister Śiva of medieval and modern India : the all-powerful god who has nevertheless no place in the theogony of the Aryan invaders. On one of the seals we see him surrounded by animals—tiger, elephant, rhinoceros, bull, ibex—in the character, we may suppose, of Paśupati, Lord of Beasts. Less certainly, we may identify him in the torso of a sculptured dancing figure, as the familiar Natarāja of countless South Indian bronzes of a more modern age. Again, the phallus-worship which is an integral feature of historic Hinduism has no root in the Aryan religion of the Rigveda but appears to have flourished in the Indus cities. And yet again, the dominance of the bull in the Indus Valley is beyond dispute : for example, of a hundred terracotta figurines which I found at Mohenjo-daro in 1950, no fewer than ninety represented bulls. The sanctity of the bull has made this animal a notorious economic problem of modern India ; but the Aryan invaders had no compunction in regarding it as a normal article of diet. The animal's present embarrassing immunity in India may well be an inheritance from the Indus folk rather than from their Aryan successors.

I claim no originality for this and similar analyses and need not here carry the matter further. Suffice it to say in summary that religious ideas of high importance in later, so-called Aryan, India are certainly or probably legacies from the pre-Aryan Indus Civilization, and represent a continuity on the religious or intellectual plane where any material nexus is lacking. Whilst therefore we cannot affirm, in anything approaching the classical sense, that the captured Indus folk captured their rough conquerors, we can at least proclaim a continuity of important and even controlling *ideas* through the period of material destruction and revolution. Tiny but significant particles of evidence hint that, whilst the Indus urban system, its street-plans, its endless drains and its astonishing seals, vanished into thin air leaving not a wrack behind, something of the Indus thought and its way of life live on into modern, 20th century India. Whether we should add that its unread semi-pictographic script is parental to the Brahmi script of historic times is matter of dispute into which I am not qualified to enter, and no claim is made for it. In any event, the main vehicle of thought in ancient India was an impeccable oral tradition, and the limited use and seeming fossilization of the Indus script was doubtless due in great measure to that fact.

Lastly, I turn through fifteen centuries to one more example of the transmission of ideas, an example of a different kind. This time we are in the first five centuries A.D.

and on the northern fringe of the region with which we have just been dealing. A few months ago, the Press of another university published a monumental work in three volumes on the subject of *Taxila*, by my distinguished precursor in India, Sir John Marshall. Taxila is today an obscure railway-junction on the borders of the Punjab and the N.W. Frontier Province of Pakistan : not quite so obscure as ' Babylon Halt ' on the railway south of Baghdad, but of that order. Anciently for a thousand years, from about 500 B.C. to A.D. 500, it was a capital city successively under Persian, Indian, Greek, Scythian, Parthian and Kushana rule. It lay on the great highway which tapped the trans-Asian ' Silk Route ' at Bactra near the Oxus and, penetrating the Hindu Kush, carried an international trade from and into India and the lands beyond.

With the varied history of this site, as recovered by excavations carried out for nearly a quarter of a century on a lavish scale, we are not here concerned. But one aspect of its later years illustrates and emphasizes a well-known problem in the history of Asiatic art, and I would cite it as a strange example of the effective penetration of ideas and formulae over many thousands of miles of country and through countless barriers of nationality.

The story is briefly this. By way of preface, let me recall that, for more than a century and a half after the death of Alexander the Great, a Greek aristocracy dominated the Oxus valley, in Turkestan, from that great Mother of Cities which I have already mentioned, Bactra, now the insignificant village of Balkh. Bactra, as I have said, stood at the junction of the trans-Asian ' Silk Route ' and an important branch-line extending south-eastwards into India—the branch-line upon which Taxila itself stood, some 500 miles away through the high mountains of the Hindu Kush. Soon after 200 B.C. these Greeks of Bactria pressed southwards, evidently using the trade-route as their axis of advance, and established themselves at Taxila. There they ruled for about a hundred years ; but early in the 1st century B.C. they were superseded here and elsewhere by Sakas or Scythians, who had come out of Central Asia, had overrun Bactria, and now swarmed over this ultimate province of the sub-Greek world. There is no evidence that anything significantly Greek hereabouts survived the onslaught.

I mention this early semi-Greek phase in our Orient merely to dismiss it from the present context. A subsequent cultural episode has sometimes been speciously fathered upon it. That subsequent episode is the sudden appearance in this region, in and after the 2nd century A.D.—perhaps as early as the latter half of the 1st century—of Western goods and Western modes and their partial absorption into Eastern culture. It is possible that the earlier Hellenistic phase had in some remote way prepared the local consciousness for this new access of Greek, or rather Greco-Roman, ideas, but a local organic continuity between the two phases cannot be postulated. The hiatus of a century and a half (or more) which separates them cannot be thus lightheartedly bridged. Some new factor must have intervened.

Reference to ANTIQUITY XXIII (1949), 4 ff., will suffice to recall the general nature of this remarkable phase of Westernizing art, in which satyrs, putti, Antinous, and even the Trojan horse were integrated with oriental forms in the Buddhist art of a considerable tract of Asia. It has long been agreed that this is a very striking phenomenon, but the mechanics of it are not yet wholly explained. How in fact did this remarkable impact of West upon East occur ? Well, we have, I think, a hint of the *modus operandi* in the *Periplus of the Erythraean Sea*—that famous merchant's handbook, compiled probably at Alexandria between A.D. 60 and 110 as a guide for the oriental merchant. From it we may infer that the rich luxury trade between the Orient and Italy under the early Roman Empire was, more often than not, diverted by Parthian hostility into a devious route which took it precisely through the regions with which we are now dealing.

Instead of proceeding along the direct line through Parthia across the Persian plateau between the Mediterranean and Bactra, trans-Asian commerce was compelled by Parthian intransigence to turn aside at Bactra and to make a long detour southwards to the ports of Pakistan and N.W. India. Thus for two centuries, between A.D. 50 and 250, Afghanistan and what is now West Pakistan were busy with the transit trade of the Orient, and took toll (we may assume) of the commodities that passed their way. We are told by our Greek geographer that by this route from the Western world came figured linens, topaz, coral, frankincense, glass vessels, gold and silver plate, and wine. In return, from the East came turquoise, lapis lazuli, ' Seric ' skins from High Asia, cotton cloth, silk yarn from China, and indigo.

Now let me emphasize that, so far as N.W. India and Afghanistan are concerned, this trade was, as I have called it, a *transit* trade. There was nothing, or almost nothing, native to those regions that the Western world required. They represented just so much mileage *en route* to the further East. But it is not to be supposed that princes and satraps along this route allowed wealthy caravans to pass their doors with complete immunity. Great towns such as Taxila, or Begram north of Kabul under the towering Hindu Kush, owed their prosperity and even their existence to the arterial highway that passed their gates. And at Begram we have an outstanding illustration of the fashion in which they collected their dues.

It is now well known—although publication is still very incomplete—that in 1937 and 1939 French excavators at Begram, digging in the ancient town there, found a building in which were two rooms with one or more blocked-up doorways. Packed in serried masses into these rooms was an astonishing array of wares. Carved ivories in great quantity and of exquisite quality from India and lacquer-ware from China lay side by side with bronzes and glassware and stucco medallions or *emblemata* from the Mediterranean world, from Alexandria and perhaps from Syria. The Roman glassware dates from the 1st, 2nd and 3rd centuries A.D., and it is evident that the collection represents an accumulation, not a single consignment. Its terminal date may be about A.D. 250.

Here, stowed away like so much bullion in a bank strong-room, we may recognize a royal depot of goods gathered as dues from the rich transit-trade of which I have spoken. China, India, the Roman Empire have all contributed to it. In the museum at Kabul, where most of the collection is stored, or in the Musée Guimet at Paris whither a part of it has been brought, the imagination of the spectator is stirred in the contemplation alike of its excellence and of its vast horizons.

In the present context I would draw a special attention to the plaster *emblemata* which I have just mentioned. They doubtless originated in Alexandria, and we are reminded how Rostovtzeff long ago affirmed that ' the active agents in the exchange of goods between the Roman Empire and China were the Alexandrian merchants. Without them the commerce with India would probably not have existed '. Here it is relevant to emphasize that Alexandria was also the Western focus of plaster or stucco sculpture, drawing upon those endless local supplies of gypsum which still whiten the coastline for miles to the west of the city. Without elaborating the matter at this late hour, we may assert that a convergence of evidence indicates an Alexandrian origin *in primis* for the Westernizing stucco sculpture which we have found amidst the Buddhist art of Asia in and after the 2nd century A.D.

But to discover the source of an idea, and even the mechanism of its diffusion, does not suffice. Ideas are sensitive plants and often enough perish in transplantation. For example, an active and well-documented Roman trade with Southern India, of which I have not spoken this evening, left *no* enduring imprint whatsoever upon the South

Indian cultures with which it came into contact.[3] The rich Western glassware of the Begram hoard itself had likewise no influence whatsoever upon the craftsmanship of India or Afghanistan. Why did sculpture, and particularly stucco sculpture, from the West enter as it did into the aesthetic consciousness of those lands, so that modes derived from it can be traced ultimately as far as China on the one hand and south-eastern India on the other ?

The answer is not in doubt. When this trade was at its height, Buddhism was the flourishing and fashionable observance in the lands of passage whereof we have been speaking. The Buddhist monasteries were wealthy, and ready to expend their wealth as patrons of craftsmanship. Above all, their faith was undergoing a radical change which at this moment made them peculiarly receptive to certain categories of western ideas. I need not do more than remind you of the circumstance. In origin, Buddhism was a way of life, not a religion. The Buddha was a teacher or prophet, and for some five or six centuries the representation of him in art was as rigorously forbidden as was that of the subsequent Prophet of Islam. But, by a process of evolution natural to a country where reverence for the teacher is (very properly) deep-seated, the Buddha gradually assumed the stature of a god to whom prayer was apt, and this new status had secured a formal recognition by the 2nd century A.D. By now the divine Buddha had begun to appear in person and had become the representational focus in Buddhist art. Both aesthetically and iconographically, the moment was ripe for revolutionary change.

For the emergence of the Buddha as a divine figure, with all that this implied in the coordination and centralization of artistic composition, at once created a need which was essentially novel in the East but was traditional in the classical art of the West. The circumstance that at this moment objets-d'art from the West were travelling commercially through the Buddhist zone of N.W. India and the adjacent lands was a fortuitous but a happy one. The need and the practical guidance as to its fulfilment thus coincided ; with the additional and simultaneous advantage that, incidentally, a new medium, stucco, was introduced from the commercial base at Alexandria and at once indicated an easy vehicle for the mass-produced reproduction of which the swarming hive of Buddhist shrines and monasteries was now in need. From now onwards, far along the Asian trade-routes which bore Buddhist monachism as well as more secular commodities, the new medium and elements of the Western art which had initially accompanied it found their way into the heart of Asia and as far as the borders of China.

Enough of this complex story. I have recounted a sufficiency of it to point a moral, which is this. Whilst on occasion (as we have seen in the Indus Valley) ideas may flit, incorporeally but nonetheless effectively, from zone to zone and age to age, on other occasions (I have especially quoted the case of South India) ideas in the most corporeal and archaeologically gratifying form—pottery, glass, coined money—may migrate and perish save as mere indices of effort. Only in some rare moment may the seed fall on fertile soil and fructify ; and to illustrate this I have given the example of 2nd century Buddhism with its new needs and coincidental opportunities.

My key-examples in this discussion have been taken from history or protohistory where the archaeologist is ultimately subject to literary control. But, poor fellow, such control is at the best available only for one hundredth of the time-span with which he deals. Pity him, I beg of you. Pity him groping in that other ninety-nine hundredths. He is a surgeon working in darkness and with blunt tools upon that most sensitive of organisms, the human brain. Happily his patient is already dead.

[3] Unless we except the momentary transfer of Arretine rouletting to a certain class of native ware.

Cerdic's Landing-place

by O. G. S. Crawford

IN 1931 I wrote an article[1] maintaining the thesis that Cerdic's ora, where in 495 Cerdic and in 514 the West Saxons landed, was to be located near Totton at the head of Southampton Water; and that he advanced westwards along an old track called the Cloven Way to Cerdic's ford, which is certainly to be put at Charford on the Salisbury Avon. I still think that the latter part of the advance must have been along the Cloven Way which led to the ford down a deep hollow way that can still be seen. But certain new discoveries have caused me to abandon the theory of a landing at Totton and to locate Cerdic's ora on the coast between Calshot and the mouth of the Beaulieu River.

A weak point in the Totton theory was the long interval of thirteen years between the landing and the defeat of Natan Leod, whose territory lay between Totton and the forest plateaux to the west and southwest. Those years were presumably occupied in consolidation and settlement, which could hardly have taken place within a mile or two of an undefeated hostile ruler. If, however, the landing was on the shores of the Solent ten miles to the southeast, there would have been plenty of room for settlement on the shores of Southampton Water and the Solent.

Now therefore I suggest that Cerdic's ora was the stretch of shingle-beach between Calshot and Lepe at the mouth of the Beaulieu River. That would exactly fit the special meaning of O.E. *ora*, a 'firm fore-shore or gravelly landing-place' (Ekwall, citing Itchenor and Rowner) as opposed to places where the coast was soft and muddy. The word does in fact occur in the name Calshot itself (O.E. *celces ora*) and at Needs Oar, though as I have already pointed out there can be no etymological connection with Cerdic. The suffix alone survives in Ower close by. At the southern end of this beach is the farm of Stone (formerly a small medieval manor) which Ekwall identifies with Bede's Ad Lapidem. That identification is strongly supported by the fact that at Stone the Roman road to the Isle of Wight ferry reached the Solent. Bede's narrative shows that the ferry was still in use in the 7th century, and it survived down to the 16th.[2] The Roman settlement has yielded no positive evidence unless the old foundations and lumps of limestone to be found near Stone are remains of it.[3] It must have been at the end of the Roman road on the narrow tongue of land, about a quarter of a mile wide, between the Dark Water on the west and a nameless stream on the east. Before sluices were made in the shingle-bars at their mouths, both these streams must have had small tidal estuaries or 'lakes'; and before they were blocked by the shingle these would have been navigable, providing

[1] Antiquity v, 441–58: 'Cerdic and the Cloven Way'.

[2] The two brothers of Arwald, king of Wight, fled from the island, 'et in proximam Jutorum provinciam translati; ubi, cum delati in locum qui vocatur Ad Lapidem . . .' Bede, Op. Hist., ed. Plummer, 1916, i, 237. In 1590 John Cole, a mariner of Lepe, found a mast floating in the Solent while he was 'in his boate passinge betwene Gurnard and Leape'. *Book of Examinations* (So'ton Record Soc., 1914), 78.

[3] See *Field Archaeology*, by Dr Williams-Freeman, 1915, 214–16, 442: *Proc. Hants Field Club* x, 1927, 35–9 (plan of road and of earthworks in Pits Copse). The present farmhouse of stone is partly built of Isle of Wight limestone, and is of medieval date. There are banks and hollows in the west bank of the stream just north of the point where it is crossed by the private road leading east to the farm.

excellent havens for small ships. The mysterious earthworks in Pits Copse, south of Stone Farm (FIG. 1), look in plan like ships' docks, and whatever their age or purpose seem to belong to a period when the approach was still open and ships could sail in. If these were made in Roman times Cerdic might have used them, but he would certainly never have constructed them. One would not dare to claim more without definite evidence. For the present argument it is enough to accept the termination here of the Roman road as evidence that some sort of haven probably existed. I think we may credit Cerdic's ' intelligence department ' with knowing about this, especially if he and his band came, as I believe, from Kent and not direct from the distant continental homeland. The Stone peninsula would be easy to defend, being surrounded on three sides by water ; and even without any previous knowledge it would be the obvious landing-place, confronting him as he sailed up Spithead. (The coast between Calshot and Stone Point runs in a direction S.W. by S., confronting Spithead).

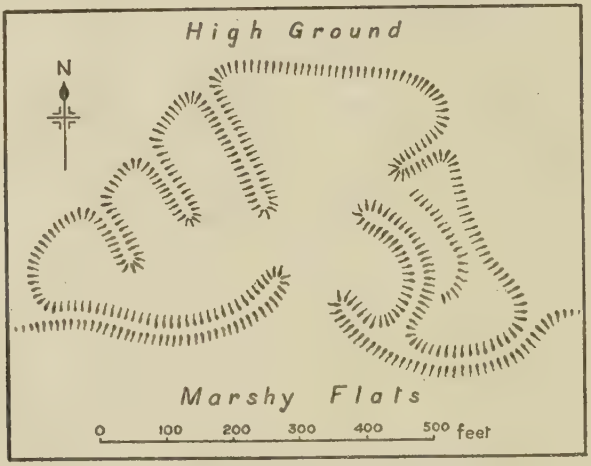

FIG. 1. EARTHWORKS IN PITS COPSE, STONE, HANTS
after Sanders in *Proc. Hants F.C.*, X, 1927, 39

From the Solent at Stone the Roman road runs northwestwards for five miles to Dibden Purlieu, beyond which its course is doubtful. Either it continued along the same alignment through Orestone Copse near Purlieu House, where I once thought I saw remains of the causeway ; or else it changed direction following the line of the Forest boundary, which is known to have followed an ancient road. Across both these courses runs a linear earthwark 1600 feet in length (number 1 on the map, FIG. 2), facing northwards (ditch on north). This is one of the new discoveries which have altered my opinion about Cerdic's ora, for it could so nicely be explained as marking the frontier of the first enclave. I found it quite accidentally about ten years ago when I was bicycling back from Lepe along the old road. It is first visible opposite a house called Forest View (Hants. 83 S.W., edn. of 1909) 300 yards N.W. of the point where the road from Beaulieu to Hythe crosses the Forest boundary. The west end rests on a gully which is the head of a small eastern tributary of the Beaulieu River. Eastwards it surely did not end on the road, but continued the same alignment to the head of a stream running northeastwards

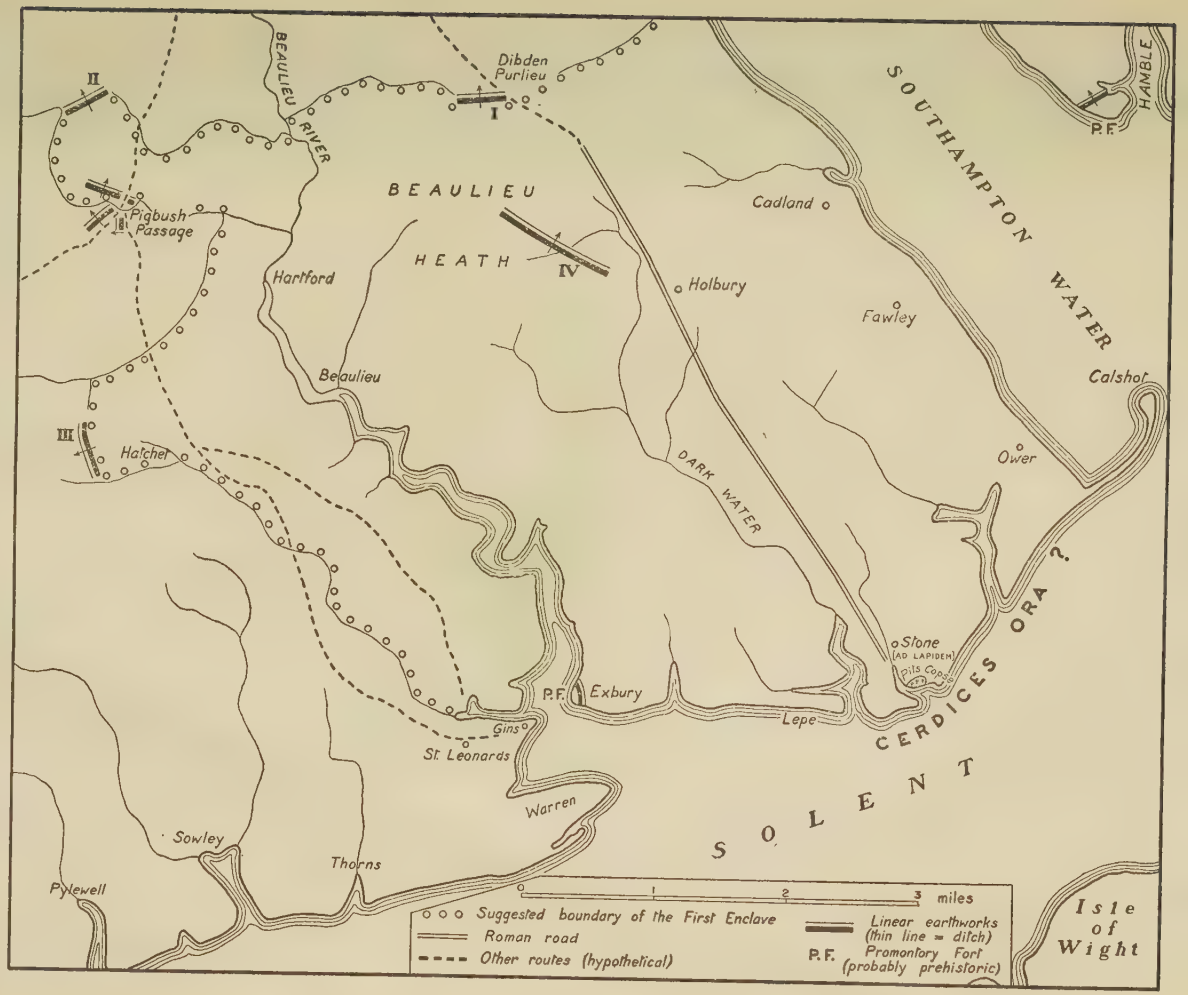

FIG. 2. SUGGESTED ENCLAVE OR BEACH-HEAD DELIMITED BY LINEAR EARTHWORKS

by Langdown to Southampton Water immediately south of Hythe. That stream-head would form the eastern flank of the defence line. The total length of the earthwork would then be a little over half a mile. The ground chosen is on the watershed between Southampton Water and the Beaulieu River, at the point where a narrow col separates them ; southwards the ground at once opens out on to the broad level plain of Beaulieu Heath, to which the col offers the natural way of approach from the north. This earthwork together with its two stream-flanks might well demarcate the territory of primary settlement ; lying across the natural entrance it would be the obvious place to oppose an attempt to enter it by force.

On Beaulieu Heath south of the last mentioned earthwork is another much longer one facing northeastwards (IV, FIG. 2). It is marked on the Ordnance Map (Hants. 73 S.W. edn. of 1909) by a long line, the symbol used to denote modern enclosure-boundaries. The north end rests on some boggy ground which is the source of the Dark Water. In June when I last visited it this ground was distinguished from the rest by the white tufts of bog-cotton seed, a sure sign of wet ground. For 700 yards the earthwork runs quite straight to a bell barrow which it intersects. The overall width of the earthwork in this section is about 20 feet, and the height of the bank above the bottom of the ditch (CD vertical) about 4 feet. At the barrow there is a slight change of direction towards the east, which is maintained without deviation to the end on the west bank of the Dark Water. Soon after leaving the barrow it crosses another branch of the Dark Water below Stonyford Pond, and for 1000 feet it forms the boundary between the parishes of Fawley and Beaulieu. I first saw this earthwork in 1920, and revisited it in June, 1952. It is certainly ancient, and it has the same characteristics as the other three. It is not, I think, a medieval bank, for banks of that age, such as the Bishop's Dyke, usually consist of a very big bank six yards wide made of turf and earth, with quite small ditches on *both* sides. (One of these, also marked by a line in the Ordnance Map, runs northeastwards just N.W. of its N.W. end, to a pond W.S.W. of Flash Pond). There seems no reason for not regarding this earthwork as a subsidiary line of defence of the enclave directed against a possible attack from the direction of Hythe, which may well have been the terminus of a ferry-service from Clausentum.

Another linear earthwork (II) runs across the modern road from Beaulieu to Lyndhurst nearly midway between them and five-eighths of a mile southeast of Beaulieu Road station. The whole of it is preserved, a stretch of 1700 feet, the southwest end resting on boggy ground called Stephill (formerly Steephill) Bottom, and the other on a nameless bog, the head of a western tributary of the Beaulieu River. At a point near the road the overall width is 20 feet and the CD. vertical 5 feet. The earthwork follows the edge of the sloping ground, with a clear view northwards, and the ditch is on the north. The modern road, which is also an old one, leads eventually through Lyndhurst to the Stoney Cross plateau, and its direction is continued by a Roman road whose ultimate destination must have been Sorbiodunum (Old Sarum). The greater part of this earthwork is marked by hachures on the Ordnance Map (72 S.E. edn. of 1910), but it is not named. About the middle of its course it *cuts through* a much older linear earthwork of the bivallate type. Near their intersection the latter consists of a broad deep ditch between two banks, outside each of which is a much smaller narrower ditch. It therefore belongs to the ranche-boundary type usually assigned to the Late Bronze Age, an attribution supported by its more weathered outlines. I traced it southwards to a point inside the Bishop's Dyke, which also intersects it, and northwards to beyond the modern road leading to Ipley. It seems to continue across it northeastwards. The known length is thus about three-quarters of a mile.

PIGBUSH PASSAGE, NEW FOREST

facing p. 197

Nearly half a mile further south is a wood called Pig Bush through which runs an old track to a ford called Pigbush Passage (PLATE) leading across the Shepton Water. Between the wood and the stream are two detached lengths of bank and ditch separated by a furlong's width of boggy ground. Their combined length, with the boggy interval, is 1600 feet; the ditch is on the north and the general direction from W.N.W. to E.S.E. They might be regarded as defences of a bridgehead north of the ford, which may once have been much more used than its present state and position would suggest. South of the ford, between Row Barrow Pond (just inside the Bishop's Dyke) on the west and Halfpenny Green on the east, are two more short lengths of linear earthwork. One follows a sinuous course of about 1000 feet along the S.E. side of the Bishop's Dyke; the other, about half as long, runs north and south from near Pigbush Passage towards Halfpenny Green. Their ditches are on the N.W. and W. sides respectively, and they are, together with their banks, of small dimensions, fading out imperceptibly at the ends, except the first one, whose S.W. end is abrupt. These two last seem to have relation to two modern tracks converging on Pigbush Passage from the S.W. and S. The latter may well have been an ancient route of our period, for there seems to have been on an old road of some importance coming from Eling by the modern Beaulieu road to Longdown; here it diverged from the road southwards, leaving the remains of a deep and wide hollow way, in the valley, and below that, the residual causeway.[4] Thence it may have gone over Yew Tree Heath to Pigbush Passage and on to Hatchet Gate, and by Beufre and Ashen Wood to St. Leonard's Grange and Chapel at the mouth of the Beaulieu River. This would be the obvious northern route for anyone landing at or near St. Leonard's on the west side of the Beaulieu estuary. Before the muddy foreshore was reclaimed (probably by the monks of Beaulieu and certainly before 1698) there was a small creek or 'lake' at Gins, half a mile E. of St. Leonard's, at the mouth of the stream from Hatchet Pond, making a haven for small ships. Immediately opposite is the promontory fort of Ekeresbury (Exbury) and St. Catherine's Chapel. Gins Farm, of medieval origin, stands on the tip of a gravel spur which would have been an excellent site for a promontory fort. There is in fact a very short length of ditch just east of the farm, between the road and the river-bank on the north, which might possibly be the ditch of a fort of this kind; but the existing remains are too slight to prove the existence of such.

The third of the linear earthworks (III) is one ascribed to the medieval period by Heywood Sumner, but for reasons which I cannot possibly accept. It runs north and south across the road from Beaulieu to Brockenhurst west of Hatchet Pond (FIG. 3) for a length of about 2000 feet resting on boggy ground at each end. It was destroyed during the war to make an aerodrome, but was excavated first in 1941 by Mrs C. M. Piggott, from whose report I quote[5]: 'the excavation, which consisted of a narrow cutting 3 feet wide and 50 feet long, was taken across part of the ditch (now destroyed) about 30 yards south of the road. It showed a roughly scooped-out ditch with only two feet of silt, and a bank to the east of this had been made by first throwing the turfs from the ditch on to the old ground surface and covering these with clay and gravel. An 8-foot length was uncovered along the edge of the bank, parallel to the ditch, while looking for possible post-holes, but none was found'. Mrs Piggott also records that no objects were found. The ditch was on the west and the earthwork therefore faced in that direction.

[4] Which closely resembles, but is not, the causeway of a Roman road. I owe my knowledge of this road to Mr L. A. Burgess, Deputy-Librarian, Southampton.

[5] *Proc. Hants Field Club* XVI, 1945, 166. I wish also to thank her and the Editor for permission to reproduce the section, FIG. 3.

These four earthworks (excluding the ones at Pigbush) all seem to be of about the same dimensions and character. Another, near Fritham, which was excavated at the same time as the last, consisted of a bank between two ditches, with the post-holes of a fence or palisade under the bank on the margin of the eastern ditch. Banks with a ditch on each side are usually medieval ; there is one such on Setley Plain, and the Bishops Dyke in the Forest and the many boundary-banks at Hursley (one of the same bishop's manors) though far bigger, are of the same character. The Fritham bank is structurally unlike the ones described above and does not fit into the scheme in any way : it may therefore be eliminated from the present enquiry.

If we examine the general disposition of more of these linear earthworks on the map of the district, a very interesting fact emerges ; with the streams and boggy gullies on their flanks they form a complete ring round the southeast corner of land between Southampton Water on the east and the Solent on the south. They bridge the cols between those streams exactly at the points where the watersheds were narrowest. The best

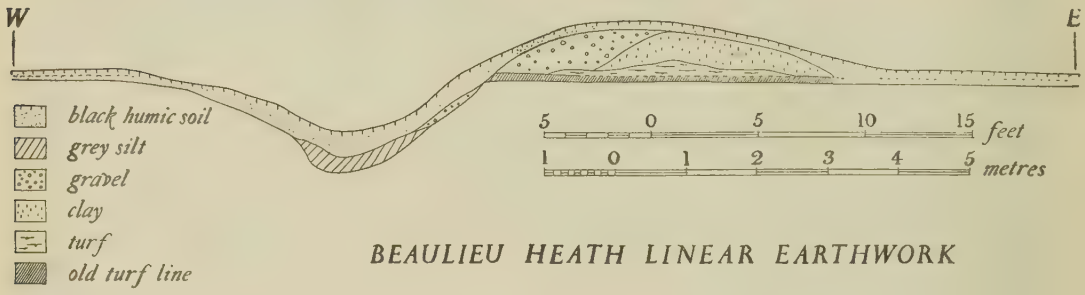

Fig. 3

way of demonstrating this will be to describe the course of a hypothetical boundary which they may be supposed to demarcate.

We begin at Southampton Water south of Hythe and proceed along the stream by Langdown to its head ; then along the dyke (linear earthwork) through Dibden Purlieu to the head of a gully running northwestwards and later turning into a stream running southwestwards across the Beaulieu road to the Beaulieu river east of Buck Hill ; thence westwards south of Buck Hill up along a stream between Ferrycroft and Culverley Farm to a dyke, and then southwest along the dyke to Stephill Bottom, and down along it to Shepton Water ; down along Shepton Water by Pigbush Passage and Shepton Bridge to the mouth of Wort's Gutter ; up along Wort's Gutter to a gully south of Moon Hill ; up the gully to the dyke ; along the dyke to the south head of Hatchet Pond ; along Hatchet Pond eastwards and then down along the stream southwestwards south of Swinesley's, Beufre and Ashen Wood to St. Leonard's and the estuary of the Beaulieu River ; then along the shore eastwards to Lepe and Stone, northeastwards to Calshot and northwestwards to Fawley and Cadland to the mouth of the stream south of Hythe where we began. Were this a genuine ancient boundary of the 5th century it might have ended : ' And all the land contained within the aforesaid metes and bounds belongs to Cerdic, king of the West Saxons, by right of conquest '.

In 508 there was a clash with the British king Natan Leod, who was killed ; in 514 reinforcements arrived by sea, and in 519 Cerdic and Cynric ' began to reign ', and fought a battle at Cerdices ford (Charford). In 527 there was a battle at Cerdices Leah.

Note that many, perhaps most, of the warriors who fought at Cerdices Leah could have been born (many of them probably in Hampshire) after the invasion had taken place; the events so summarily described in the O.E. Chronicle were in fact spread out over a generation. It may help us to realize the slow motion of the Annals if we transpose the dates to our own times. Cerdic and Cynric would have arrived in 1895 when we were going to our prep.-schools; the next recorded event did not happen till we had left college in 1908, and the battle of 1927 found us well launched in our careers. The culminating victory at Old Sarum took place in the present year, 1952. One tends to visualize a quick triumphal march through the New Forest, forgetting that the events were spread out over a lifetime. Is it then legitimate, a critic might ask, to plot the routes of armies at all? Was not the whole thing just a gradual process of expansion? Expansion there was, of course, leading doubtless to friction on the borders and to frontier incidents; but armies as well as people were on the march, battles were fought and new lands acquired. Armies in those days could not leave the beaten tracks which for that very reason were called *herepaths* (war-paths), and it is therefore quite legitimate to try to identify them.

Natan Leod was domiciled somewhere in the vicinity of Netley Marsh which has preserved his name, though the tract of Natan Leah must have comprised much more—probably most of the northern part of the Forest (FIG. 4). It would be natural for him to re-use some existing hill-fort such as Malwood or Tatchbury, just as the Britons of Salisbury Plain occupied the derelict Iron Age hill-fort of Sorbiodunum (Old Sarum). The battle as surely it was, at which he was killed may have been somewhere in the neighbourhood of one of these hill-forts. Natan Leod's defeat would have given the invaders command over a fertile and inhabited plain. The nucleus of this, the second, enclave was probably at Canterton, an ancient manor of pre-conquest age south of Brook. The name (=Cantwara-tun) means the enclosed settlement of the Kentish men and is additional evidence that Cerdic and his followers came from that county. One of the ways out of the first enclave into Natan Leod's kingdom would be along the present northeast boundary of the Forest. An old road ran from Applemore Hill, north of Dibden Purlieu, along that boundary by Ashurst (Lyndhurst Road station) and Bartley to Cadnam, Canterton, Brook and Bramshaw, where it joined—or crossed—the Cloven Way. Applemore Hill is called Dunshamele in the Forest Perambulation of 1279–80[6] which mention a 'via regia' and a 'magna via' between that hill and 'Potteresford', now Poternsford Bridge over the Bartley Water five-eighths of a mile N.W. of Lyndhurst Road station. The first advance northwards may well have followed the line of this road to Canterton. The second, to Cerdic's ford, eleven years later, may have been either along the Cloven Way from somewhere in the neighbourhood of Cadnam Common westwards, or, if it set out from Canterton, along the present Salisbury road (a very old one[7]) from Brook to the point where it met the Cloven Way above Hale. Whichever route the army took it would certainly approach the ford by the Cloven Way which leads down to it.

The battle gave Cerdic command of the ford, and he would be able to cross this wide and important valley and establish a bridgehead on the chalk uplands beyond. The road across the ford continues over Breamore Down to Wick Down where is the defensive linear earthwork which I regard as marking the limit of Cerdic's newly acquired bridgehead. Somewhere on these downs, probably quite near the earthwork was Cerdic's Leah where a battle was fought in 527. Though the name has vanished and

[6] Cartulary of Beaulieu Abbey belonging to the Duke of Portland (Welbeck I.A.2, ff. 13, 70).

[7] See ANTIQUITY V, 458.

identification is therefore uncertain, a faint echo seems to have survived in the 14th century. The Calendar of Patent Rolls for 1338[8] records that Richard de Chardele, servant of Roger de Audele, parson of Fordingbridge, was assaulted at Fordingbridge, and that the parson's close and houses at Wulfedele were broken into. It seems possible that Chardele, the modern form of which would be Chardley, or Charley, may be the Middle English form of O.E. Cerdices Leah; it is certainly the name of a place, and is likely to have been not far from Fordingbridge. A search in manor rolls and other documents (if any survive) relating to the district might be profitable. So far as I know no cartulary of Breamore Priory has survived; if it has, it would be worth searching.

The erection of defensive earthworks to protect a beach-head is an obvious device dating at least from the Trojan War. It was adopted at Bindon Hill in Dorset by the earliest Iron Age invaders of Wessex about 400 B.C. who landed at Lulworth Cove, as Sir Mortimer Wheeler has just proved.[9] A distinction should be made, however, between the defences of a beach-head (Bindon) and those demarcating the region of primary permanent settlement. Cerdic's round Stone belongs to the latter class; and another example (of unknown age) is found on the south coast of Cornwall where the Giant's Hedge cuts off a piece of coastland 8 miles long between the Looe and Fowey estuaries. The view here put forward is merely a particular application of the accepted one that these linear earthworks were defensive frontiers. One wonders whether its adoption might not help to interpret similar earthworks elsewhere, such as the Danes Dyke at Flamborough Head, some of the Norfolk dykes, and (par excellence) La Hogue Dikke across the Cotentin Peninsula.

It would be nice if the evidence of early place-names could be cited in support of a settlement in this enclave at the date postulated. Unfortunately few if any seem to have survived. Many probably disappeared when the Beaulieu estate was reorganized after the Dissolution; and nearly all the topographical documents of Beaulieu Abbey, which might have recorded the earlier ones, have disappeared. There are three possible *-ing* names; *hyldingbroc* in the bounds of land at *Celces ora* (Calshot) in A.D. 980,[10] probably the Dark Water or Stanswood stream, or one of their tributaries; Keeping Copse near Buckler's Hard (1698); and perhaps a copse now called Walton Copse near Holbury, called Wanting Coppice on the Tithe-map.

The purpose of this article is to record some new discoveries and air some new theories. It supersedes my previous article in respect of the site of Cerdic's ora and the first part of the march to Cerdic's ford. But my account of the course of the Cloven Way still holds good, being a record of observed facts. I have not the slightest doubt that it was in use throughout its length as a thoroughfare between Totton and Charford and on beyond it into Cranbourne Chase. But if my new view of the site of the landing is correct, the Cloven Way is unlikely to have been used by the invaders except at its western end above Charford. One other point needs mentioning; when I wrote the first article I did not make enough allowance for the slowness of the advance, treating it too much as if it were a single campaign instead of a gradual process of conquest and settlement spread out over a generation.

[8] *Cal. Pat.*, Ed. III, vol. 4, p. 150 (1st October, 1338).

[9] The account of his excavations there is to be published by the Royal Commission on Ancient Monuments (England) in their Dorset volume. We give the above facts with Sir Mortimer Wheeler's permission.

[10] Kemble, *Cod. Dipl.*, No. 626.

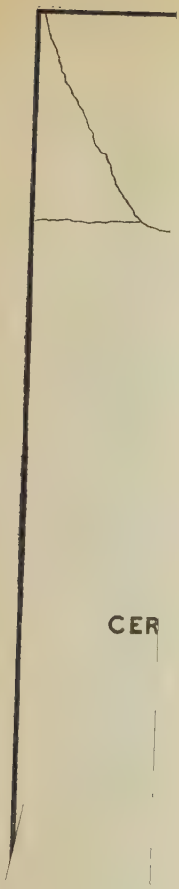

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FIG. 4. BATTLES AND POSSIBLE ROUTES OF THE INVADERS BETWEEN A.D. 495 AND 552

facing p. 200

Some Aspects of American Culture-history: a review

by Gordon R. Willey
(*Harvard University*)

THIS, the third volume of Runa*, is a journal of general anthropology for the professional reader. The emphasis is Americanist, but a range of interest covering all fields of Old and New World archaeology, ethnology, folklore, physical anthropology, and theory is indicated in the selection of brief contributions and book reviews. Notably absent is anything on the social or applied anthropological side. The volume, which is well set up typographically and pictorially, contains 4 long articles, 6 short contributions, 22 book reviews, lists of publications, and miscellaneous notes. Most of the reviews are by the editor, José Imbelloni, or by O. F. A. Menghín, staff member of the Instituto de Antropología.

This is a review of the major articles which deal with archaeological subjects.

Investigaciones Prehistóricas en Cuevas de Tandilia (pp. 5–36) (by O. F. A. Menghín and Marcelo Bórmida). Since Ameghino's day the problem of early lithic finds has been of unusual interest in Argentina. Although the putatively ancient remains of the Buenos Aires littoral failed to stand up under careful scrutiny, recent discoveries in the Argentine and other parts of southern South America have offered substantial proof of pre-ceramic periods. The cave remains which Drs Menghín and Bórmida describe from the hills of Tandilia in southeastern Buenos Aires Province are among such evidences. The Tandil caves, Gruta del Oro and Gruta Margarita, are rock ledge formations originating from water action in the late Tertiary or early Quaternary stages. Test excavations in the Gruta del Oro revealed a fourfold physical stratification with cultural remains in the two lower layers. The topmost layer contains diatoms which resulted from a period of moist climate believed to have been the sub-Atlantic phase of the area. The second layer (from the top down) was partially composed of volcanic materials and is thought to correspond to a relatively dry period. The third layer is a humus zone filled with chipped stone artifacts. It is assigned to the Atlantic phase, another humid interval. The fourth and basal stratum shows dry conditions accompanied by vulcanism. Artifacts are also found in the upper portions of this soil zone. Total depth of the excavations averaged 1.50 metres.

Dating of the sub-Atlantic phase is 1000–0 B.C. The previous dry interval is estimated as 2500–1000 B.C. while the Atlantic humid period is given the dates 5000–2500 B.C. The earliest stratum antedates the 5000 B.C. mark. This geological dating places the artifacts, which are found in the third and fourth layers, somewhere in the neighbourhood of 4000 to 6000 years before the beginning of the Christian era.

The artifacts are knives or scrapers chipped from chalcedony or quartzite. Most of the implements show work along only one edge. One tool type appears to be a flake

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* *Runa, Archivo para las Ciencias del Hombre, Vol. III, pts.* 1–2. Instituto de Antropología, Facultad de Filosofía y Letras, Universidad de Buenos Aires. 1950. (303 pp., various plates, figures, maps. Price not stated).

form with a beak or point, and there is a core with some retouch which may have been used as a scraper. Virtually all identifiable artifacts came from the Gruta del Oro, the Gruta Margarita showing the same physical stratigraphy but yielding no definite stone forms.

Menghín's comparisons begin with the specimens from a nearby cave, Ojo de Agua. This site, together with the Gruta del Oro, are the basis of a *Tandilense Complex*. The Tandilense complex is then compared with the remains from another cave, Cueva Eberhardt, where similar stone tools were found associated with some rather unspecialized bone artifacts. In matching Tandilense-Eberhardt with Bird's sequence in the Straits of Magellan, Menghín holds out for a Period 2 cross-tie, although he admits that the Magellanic complex is much richer, especially in bonework. In this connection he makes the very interesting suggestion that Bird's Period 2 may have been derived from the north from a Tandilense base and that in the Straits region it had been modified by other elements coming from the Period 1 level of Bird's stratification. Menghín goes on to state that Tandilense is a part of a world-wide "*Proto-lithic Bone Culture*" with technological survivals from the Lower Palaeolithic.

It seems to me that a pre-ceramic complex of about 6000–4000 B.C. is a reasonable expectation for the Argentine Pampas. Here, as elsewhere, the position of Holmes and Hrdlicka on early man in the Americas is no longer defensible. It also seems likely that other lithic complexes will be revealed in Argentina and that these will demonstrate a continuity from the Tandilense (or possibly something earlier) up into the pottery period. Rigorous prosecution of such sequences is still the great need. Menghín and Bórmida have made a valuable, geologically well-documented contribution toward the solution of these sequence problems. It is to be hoped that the Tandilense complex will be expanded by further investigations of this type. As to the 'Protho-lithic Bone Culture' and world-wide diffusions, such concepts will be accredited when the comparisons of a series of stratigraphic sequences throughout the areas or continents in question disclose similar technical complexes in equivalent chronological contexts.

Teotihuacan, Tula y Los Toltecas. Las Culturas Post-Arcaicas y Pre-Aztecas del Centro Mexico. Excavaciones y Estudios. 1922–1950. (pp. 37–70) (by Pedro Armillas). This account of Teotihuacan, its chronology, and its relationships with another important upland Mexican site, Tula, is a sharply defined synthesis of an extremely complex situation. I believe that it will rank as one of the great summary expositions of Middle American studies. Certainly it will be a necessary point of departure for all future writings on the Teotihuacan-Tula problem.

For the past 20 years Teotihuacan has been a keystone in the chronological structure of Mexican and Central American archaeology. Its carved tripod vases and polychrome fresco jars are the horizon markers of the Classic Period from Peten Maya to the Guatemalan highlands and Oaxaca to the Veracruz coast. Hence, the culture sequence at Teotihuacan proper is of utmost importance. Recent excavations at the site have brought in new information to be correlated with, and to modify, Vaillant's Teotihuacan sub-periods. Further, the excavations at Tula, Hidalgo, have thrown light on the history of Teotihuacan and on the Toltecs who were once, erroneously, associated with the Teotihuacan metropolis. The Armillas review incorporates these new data in a convincing manner.

Armillas begins by summarizing native mythology and history surrounding Teotihuacan making it clear that the builders of the site cannot be identified satisfactorily with any ethnic group. He follows this with a summary of archaeological explorations from Batres to the recent work by the Mexican Instituto de Antropología. Then, he

branches out to show the distribution of Teotihuacan culture and of Teotihuacan influence throughout Middle America. Switching to Tula he discusses the Coyotlatelco-Mazapan-Tenayuca pottery stratigraphy and its relationships to the final period at Teotihuacan. His last section, and the substance of his contribution, is the chronological summarization of Teotihuacan. In this he dispels much of the cloudiness with which the Teotihuacan sub-periods had been enshrouded. In the chronology which Armillas offers he has, wisely, forsaken numerical designations for sub-period or phase names: thus, any further splitting of the recognized sub-periods, or additions of new ones, if such is found necessary, will not be hampered by a closed numerical series.

The earliest of Armillas' Teotihuacan sub-periods is *Chimalhuacán*. This is a late Archaic manifestation equatable with Noguera's El Tepalcate finds and serving as an intermediate link between Ticoman and the pottery from the fill of the Pyramid of the Sun. As such, *Chimalhuacán* antedates Vaillant's sub-period I. *Tzacualli*, which follows *Chimalhuacán*, is the equivalent of Vaillant's I and is the late Archaic occupation on the Teotihuacan zone. *Tzacualli* is terminated by the great pyramid building marking the inauguration of the *Miccaotli* phase of the Classic Period. During *Miccaotli* the Pyramids of the Sun and Moon, the ' Street of the Dead ', and, possibly, the Pyramid of the Plumed Serpent within the Ciudadela were constructed. The phase corresponds to Vaillant's sub-period II figurines but not to the carved tripods or fresco pottery which he also placed in II. *Xolalpan* succeeds *Miccaotli*. The *Xolalpan* phase saw the expansion of the urban zone to a maximum of 750 hectares. Most of this increase was in residential units. *Xolalpan* relates to Vaillant's sub-period III but also contains certain elements which he attributed to II and IV. Significantly, this is the period of the tripod and fresco ware and of the famous naturalistic murals. It is also the period of the greatest expansion of Teotihuacan influence throughout Mesoamerica. *Tlamimilolpa* is placed as subsequent to *Xolalpan*. It is reasonably close to what Vaillant had in mind with his sub-period IV. Champlevé ware, carved before firing, is characteristic. Some residential groups were built at this time on the periphery of the city. The sub-period is brought to a close by the burning of at least part of the urban area. Coyotlatelco ware is found over the burned ruins. *Ahuitzotla-Amantla*, Armillas' final sub-period, is named after the western barrios of Azcapotzalco. This is Vaillant's sub-period V, and it is scarcely represented in the Teotihuacan zone, proper, but seems to be a refugee survival after the destruction of the city.

One of the most striking inferences to be drawn from the Armillas summary is this. If the *Xolalpan* phase is correlated with the first half of the Maya Initial Series chronology (and such a correlation is well-supported by *Xolalpan-Tzakol* ceramic cross-finds), we must conclude that the apogee of Teotihuacan civilization was achieved somewhere between A.D. 400–600 (Thompson correlation) or well in advance of the Maya Great Period. If this is true, the pyramid building of the *Miccaotli* phase, which includes the construction of the Pyramids of the Sun and Moon, antedates A.D. 400 and, probably, the beginnings of the Maya Initial Series. In other words, at a time when the lowland Maya were building no imposing structures, or at best something resembling the small Uaxactun pyramid of E-VII-sub, the inhabitants of the Valley of Mexico were constructing a mammoth ceremonial centre and may have been well on their way toward large urban populations.

La Extraña Terracota de Rurrenabaque (*Noreste de Bolivia*) *en la Arquelogia de Sudamerica*. (pp. 71–169) (by J. Imbelloni). Dr Imbelloni's long essay is a *tour de force* in the realm of ceramic diffusion in the Americas. The subject of the title is a pottery urn in human form which was found on the Beni River, near Rurrenabaque, in

lowland Bolivia. The Rurrenabaque specimen serves simply as the starting point for a survey of human pottery representations in South American and, to some extent, Middle American archaeology. The author set for himself the objectives of locating the geographical foci of primary and secondary cultural diffusions and of tracing the paths of these diffusions throughout Andean and lowland South America.

Near the close of his essay Imbelloni makes an interesting observation. This is to the effect that archaeologists have been preoccupied largely with a study of *styles* but have ignored the study of *types*. This necessitates some explanation, particularly for North Americans, who associate somewhat different meanings with these terms from those implied by Imbelloni. It has been customary for many North American archaeologists, as well as for some Europeans working in the American field, to use the terms pottery *style* and *type* synonymously or to consider types as subdivisions of major styles. Imbelloni's usage differs (and he has a precedent in Montelius) in that he conceives of a type as a broad descriptive category which may be cross-cut by various styles. As an example, the Andean vessel form, the *kero*, is a type ; but this type may be found in many styles such as the Coast Tiahuanaco, the Chancay, or the Inca. Style, in his usage, is the particularism of materials, technique, and pattern of design—a definition comparable to that given it by most other South American archaeologists. His type, on the other hand, is an abstraction more on the order of what I have called a *tradition*, a continuity through history of certain modalities which may be expressed in different styles. Leaving terminology aside, Imbelloni's point, that the type (or tradition) is an important working concept in the unravelling of culture history, still stands. I am in agreement with this outlook for it has long seemed that the American archaeologist is up against serious difficulty in attempting wide-scale reconstructions of cultural interrelationships solely upon the basis of stylistic similarity. The cross-referencing of one area with another is often blocked by stylistic regionalism. In order to discern cultural relationships across great geographic distances it will be necessary to have recourse to broader typological categories than styles. The effectiveness of these broader categories (Imbelloni's type) is, of course, limited by an important factor. This is that the form of the type must retain sufficient distinctiveness so that it is always a recognizable unity in spite of the various stylistic modifications which it may undergo. Without this recognition and distinctiveness we are left in doubt as to whether diffusion has been operative or whether the similarities which we see are the result of convergent development.

Imbelloni's case that the pottery human effigy form has a common history in the Americas leads inevitably to Spinden's concept of an ' Archaic horizon ' and the New World beginnings of human figurine modelling in Central Mexico. Imbelloni fully appreciates the difference between a specific time horizon and the traditional continuance of an idea, and makes clear that he is dealing not with a remote, widespread, and uniform Archaic epoch but with the diffusion and persistence of a what he believes to be a single type. In his opinion this type, the plastic representation of the human figure, had its primary South American centre of dispersal in Colombia and Venezuela. From this focus the type split in its diffusion. A western arm, characterized by a predominance of figurine forms, extended down the Andes and Pacific Coast. The eastern arm depending from the Colombian-Venezuelan focus spread to the South American lowlands and established secondary centres along the Amazonian system. Here, the human plastic representations tended to take the form of urns rather than figurines.

In his comparisons Imbelloni proceeds from the smaller to the large geographical units. On his first level of operations he considers four groups of pottery: (1) coastal

and highland Ecuador (human figures with or without benches); (2) the Atlantic coastal-Maracá region (seated human figure urns); (3) the Ecuadorean-Peruvian montana (effigy urns of the Rio Napo); and (4) the Amazonian course (effigy urns of Miracanguera, Marajó, and Yapurá). All of these groups he considers as derivative of his primary Colombian-Venezuelan centre, and there is certainly suggestive evidence of a possible common parentage in such a north Andean focus. The relating of the Colombian-Venezuelan primary centre, with its main Andean and lowland bifurcations, to Archaic origins in Middle America is the final step of the hypothesis. I follow in agreement with this interesting reconstruction only part of the way. There is substantial accord that the tropical lowland urn figures from Bolivia to the Maracá coast are linked in a strong traditional sense. This must be admitted in spite of the fact that we know almost nothing of their relative time positions. From Colombia-Venezuela there are also urn figure connections with the Amazonian groups, and, although it has not yet been proven, I would now incline toward Imbelloni's view that the primary diffusions of the human effigy idea were from the Andes to the lowlands. In highland Colombia and Ecuador there are suggestive similarities between such pieces as the Popayán (Colombia) human figures seated on benches and the Amazonian plastic representations. Further relationships in this direction appear less secure. The coastal figurines of Manabí, Esmeraldas, and Tumaco are highly specialized, and it is at this juncture that one begins to doubt Imbelloni's use of his type concept in plotting lines of a grand unitary diffusion. For as recognizable unity of the type begins to blur, alternative explanations for the presence of human effigies of pottery on the Ecuadorean coast deserve to be taken into consideration.

In other words, I do not believe that the broad *type* or *tradition* conception can be carried rigidly to its logical extremes. Although the limited geographical distribution of stylistic entities will certainly force the archaeologist to modify his methodology in attempting to demonstrate long-range cultural relationships, he cannot eschew chronology altogether. The *type*, as defined by Imbelloni, is susceptible to temporal treatment even though this may not be as finely calibrated as the sequence studies of styles. The lack of such treatment or the consideration of its possibilities is, I feel, the weakness of Imbelloni's method. He is quite definite on this point when he states:

> '. . . *the investigation of sites where there exist great richness and stratigraphic variety, cannot in a single way be identified—by whatever method—with the investigation of large regions whose characteristic is the dispersion of some few forms*'. (italics Imbelloni's) (Author's Translation) (p. 100).

It is evident that the geographical tracing out of a form (type) over an extensive area is separate as an immediate operation from the chronological plotting of a given form in the stratigraphy of a specific site; nevertheless, the history of a form within a large region can be most effectively comprehended if we know the relative time positions of its various occurrences in that region. In no other way can we be certain of its direction of geographical movement or its sequent modifications. Archaeology has as its dimensions not only *form* and *space* but a third dimension of *time*.

Important New Books and Articles

The inclusion of a book in this list does not preclude its subsequent review

The Celtic Field-Systems on the Berkshire Downs, by P. P. Rhodes. *Oxoniensia* xv, 1950 [1952], 1–28. [A thorough and detailed survey, fully illustrated by large-scale maps, for which we must thank the Council for British Archaeology. A model of its kind].

Terra-Sigillata-Gefässe des Ersten Jahrhunderts mit Töpfernamen, by Robert Knorr. W. Kohlammer, Stuttgart. *D.M.* 12.

Four Hundred Centuries of Cave Art, by L'Abbé H. Breuil. Centre d'Études et de Documentation préhistoriques, Montignac, Dordogne, France. 5200 *fr.* to subscribers, 6200 *fr.* to the rest.

The Excavation of Two Additional Holes at Stonehenge, 1950, and new evidence for the date of the monument, by R. J. C. Atkinson, Stuart Piggott and J. F. S. Stone. *Antiq. Journ.* xxxii, 1952, 14–20. [Radiocarbon date for charcoal gives 1848±275=2123–1573 b.c.].

The Excavation of Knackyboy Cairn, St. Martin's, Isles of Scilly, 1948,by B. H. St. J. O'Neil. *Ibid*, 21–34. [Important finds of beads].

The Stanwick Excavations, 1951 : Interim Report, by R. E. M. Wheeler. *Ibid.* 1–13.

Stratigraphie du Loess et évolution des industries paléolithiques dans l'ouest du bassin de Paris, by F. Bordes. *L'Anthropologie*, lvi, May 1952, 1–39.

Radiocarbon Dating, assembled by Frederick Johnson. Supplement to *American Antiquity*, Vol. xvii, no. 1, part 1 (July 1951). Society for American Archaeology, Salt Lake City, Utah, U.S.A. $1.50.

Radiocarbon Dating, by Willard F. Libby. University of Chicago Press (Cambridge University Press, England). £1 6*s*.

The Hittites: a summary of the art, achievements and social organization of a great people of Asia Minor during the 2nd millennium b.c., as discovered by modern excavations: by O. R. Gurney. Pelican Books, 3*s* 6*d*. [A long-needed book about a neglected region].

The Karasuk Culture and its South-eastern Affinities, by K. Jettmar. *Bull. Mus. of Far Eastern Antiquities*, Vol. xxii, 83–126, 16 plates.

The Altai before the Turks, by K. Jettmar. *Bull Mus. of Far Eastern Antiquities*, Vol. xxiii, 135–223, 36 plates.

Notes and News

A CHINESE PUZZLE

In July, 1940, the Editor received, through a correspondent, information about a megalithic structure in China which outwardly seemed to resemble those European monuments which used to be called ' dolmens '. The times were not favourable for further investigation, but we have now followed the matter up, with the following result.

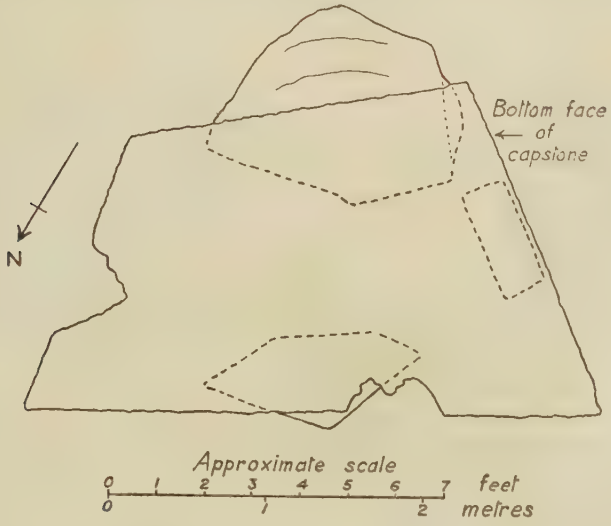

Fig. 1. PLAN OF BLOCKS AT HWANG T'IEN P'U IN S. HUNAN

The structure was discovered by the Rev. Robert S. Harrison, who was then residing at Lingling (Yungchow) in S. Hunan. It is situated at Hwang T'ien P'u in the Lingling district, and the approximate coordinates are Lat. 26° 15′ N., Long. 111° 40′ E. In his original letter of 1940 Mr Harrison quite properly pointed out that the structure might be of natural origin. It consists of a huge block (or capstone), resting on three smaller uprights between 3 feet 3 inches and 3 feet 6 inches high. The capstone is a little over 5 feet thick and about 7 feet square. The N.E. and N.W. sides are more weathered than the others, and the top and sides have been eroded into grooves by the action of rain-water. A piece of one of the uprights had been chipped off by workmen in need of metal for road-repairing. Locally it is regarded as the work of fairies and of immemorial antiquity. It is not associated with any religious rites or regarded with any reverence. At Mr Harrison's request the district magistrate, though regarding it without interest as being the work of prehistoric barbarians, promised to protect it.

The structure stands on a natural limestone platform 16 feet from E. to W. and about 50 feet from N. to S. This base is in two steps, the lower being 3 feet 2 inches (W.)

by 2 feet 1 inch (E.), and the upper 1 foot 9 inches (W.) by 1 foot 7 inches (E.). One of the photographs accompanying the note (not reproduced because not good enough) shows in the background a natural hillock of limestone whose two lowest strata seem to consist of slabs similar both in size and character to the uprights and capstone of our 'dolmen'; it seems therefore not unlikely that the latter is in fact merely a residual fragment of a similar hillock, the rest of which has been removed, partly by natural and partly perhaps by human agency. The problem could only be solved by inspection on the spot, preferably by someone with geological field-experience. The uprights should be examined to see whether their stratification is horizontal or vertical; if the latter, they must obviously have been set up by human agency. A comparison with the lowest stratum in the adjacent hillock would probably settle this point. We are inclined to favour a natural origin, and we hope that this Note will not be quoted as evidence of

VIEW FROM N. VIEW FROM S.W.

FIG. 2. VIEWS OF BLOCKS

'dolmens' or megaliths in China, where so far none have been recorded. We publish this Note because, as the plan and drawings made from the photographs show, the structure does closely resemble a 'dolmen'.

We wish to thank Mr Harrison for supplying the materials for this Note, and the Rev. H. Garner who drew our attention to the structure in 1940; also Mr Frank Addison, F.S.A., for making the drawings. O.G.S.C.

EUESPERIDES—A DEVASTATED CITY SITE

The accompanying plate (facing p. 210) is an enlargement of a vertical air-photograph of the outskirts of Benghazi (Cyrenaica), taken a few years ago by the R.A.F. for routine purposes. It covers the area immediately adjoining a large Moslem cemetery situated at the junction of the Benghazi by-pass and the Benghazi-Tocra road, two miles north-east of the modern city centre. This cemetery was constructed early in the Italian occupation of Cyrenaica, was enlarged shortly before the British occupation, and is likely to expand still further in future years. It occupies rising ground which divides the two salt-marshes, Sebka Ain es-Selmani and Sebka ez-Zreriia (FIG. 1). In ancient times these marshes were lakes connected by a narrow channel immediately west of the cemetery, and communicating also with the present inner harbour of Benghazi, and with the sea itself. They thus provided a sheltered haven for shipping.

The photograph reveals the town-plan of an ancient city situated on the edge of the marsh between the cemetery hill and the channel previously referred to. It reveals it,

however, in ' negative ' form, as a site thoroughly devasted by stone-robbers during late Turkish and early Italian times. The ancient walls appear dark because they are today open robber-trenches, with vegetation growing in their bottoms. The ancient streets appear as light strips, because they survive as raised causeways, into which the stone-robbers have had no reason to dig. The general plan of the city is none the less clear, especially at its western edge where the robbing is most recent : and, on this side, one can still make out the outline of the city-wall, with projecting towers.

These features are hardly recognisable on the ground, without the photograph in hand as a guide. The casual visitor can discern only a meaningless maze of overgrown trenches and fragmentary mortar floors, hedged in on one side by the cemetery, on another by a dump of scrap-iron salvaged from the desert battlefields, and on the third by the marsh itself, which dries out in summer exposing a surface of sickly pink salt-encrustation. No site could appear more squalid and hopeless at first glimpse.

Yet the whole area of the ancient city is littered with Greek pottery, much of it of remarkably fine quality[1], and members of the Map of Roman Libya expeditions[2] visiting the site in 1950 and 1951 collected a more or less representative selection, which has recently been studied by Mr Peter Corbett of the British Museum. Mr Corbett reports that the bulk of the pottery is Attic, and belongs to the 5th and 4th centuries B.C. There was a single sherd of the 3rd century B.C., but no Roman wares at all. The general later limit for the group seems to be the third quarter of the 4th century, and the latest sherd may be a stray from the cemetery hill, where there is reason to believe that occupation continued later than on the main site[3].

This ancient city-site, the existence of which appears to have been unknown (or, at least, unpublished) before the recent war, cannot be *Berenice*[4] which took its name from the wife of Ptolemy III Euergetes in about 247 B.C., and was continuously occupied in Roman and Byzantine times, the emperor Justinian rebuilding the city walls. Indeed, it is quite certain that *Berenice* lay beneath the centre of modern Benghazi. Mosaics and walls were found during the construction of the modern buildings by the Italians, and tombs of the Hellenistic and Roman periods have come to light at Sidi Hussein and Mafluga, on the edge of the inner harbour, between Benghazi and Berka[5]. Significantly, nothing of pre-Ptolemaic date seems to have been found in Benghazi itself[6].

Yet *Berenice* had a predecessor, *Euesperides*, which was in existence as early as 510 B.C., and had to be relieved by a Greek naval force in 413 B.C., owing to the attacks

[1] To the best of my knowledge the presence of Greek pottery on this site was first reported by Mr Frank Jowett in 1947 ; and Mr T. Burton-Brown, then Antiquities Officer in Cyrenaica, immediately recognised the importance of the site and took steps to prevent further encroachments. The air photograph came to my notice only in 1950.

[2] Mr John Eames and Mr David Smith were both active in examining the site, at my suggestion, during these expeditions.

[3] Mr C. N. Johns has informed me that pottery of rather later date has come from the Moslem cemetery area during recent levelling.

[4] For the earlier history of *Euesperides* and *Berenice* see E. S. G. Robinson, *B. M. Catalogue of Greek Coins of Cyrenaica* (London, 1927), CLXXXVIII.

[5] E. Ghislanzoni, *Notizie Archeologiche della Cirenaica* (Rome, 1915), contains a good account of discoveries made in the first years of the Italian occupation. Later discoveries are largely unpublished.

[6] The important 4th century B.C. inscription, referring to *Euesperides* by name, recently published by Mr P. Fraser (*Bulletin de la Société Royale d'Archéologie d'Alexandrie*, 1951, pp. 132–43), is of uncertain provenance, but may have come from the site under discussion.

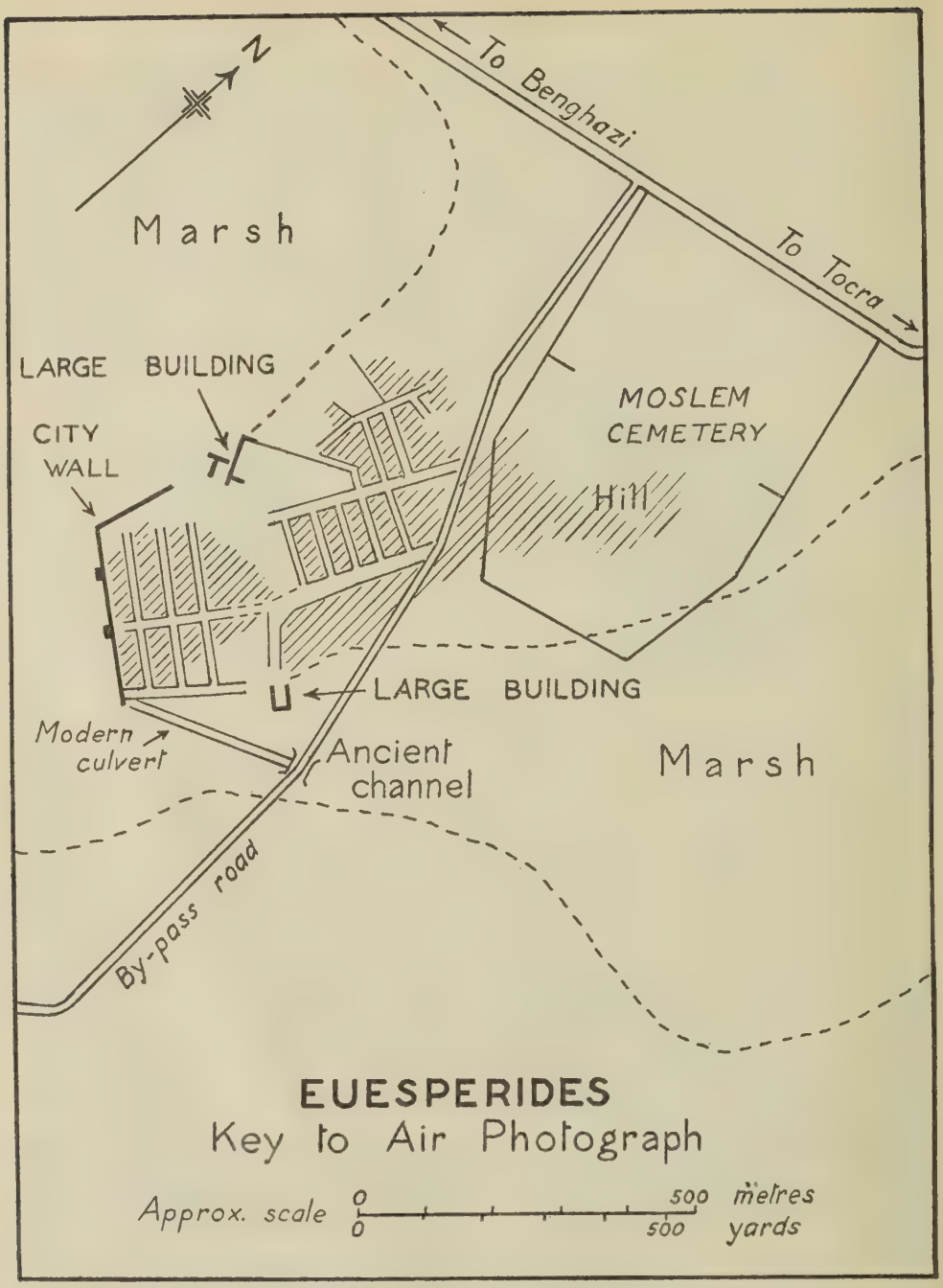
N
To Benghazi
To Tocra
Marsh
LARGE BUILDING
CITY WALL
MOSLEM CEMETERY
Hill
LARGE BUILDING
Modern culvert
Ancient channel
Marsh
By-pass road
EUESPERIDES
Key to Air Photograph
Approx. scale
0
500 metres
0
500 yards

Fig. 1

AIR PHOTOGRAPH, TAKEN IN 1949, OF THE SITE OF *EUESPERIDES* (see Key, opposite)
Photo by courtesy of Air Ministry

facing p. 210

of Libyan tribesmen. It must be this earlier city that appears, in ' ghost ' form, on our air photograph ; and from the pottery evidence already cited it would seem that the main city site was shifted nearer the sea even before *Berenice* received its dynastic name. The reasons for the change of site can only be guessed, but the drying-up of the inner Sebkas, and the consequent loss of the original harbour, is the most likely guess. In Strabo's time[7] the new city had already been long in existence, and the geographer

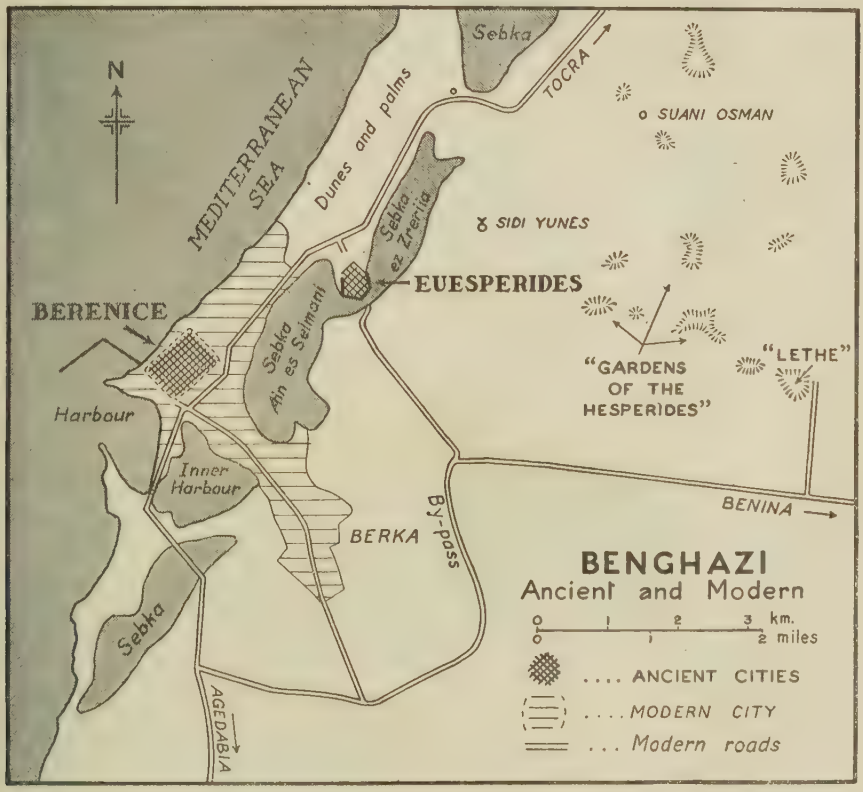

FIG. 2

makes no mention of a predecessor ; but Strabo does refer to ' a certain lake Tritonias, in which the principle things are an isle and a temple of Aphrodite '. It has always been agreed that the Sebka Ain es-Selmani must represent Strabo's ' lake ', and the only feature approaching an ' island ' is, in fact, the promontory of rising ground on which the Moslem cemetery now stands. Thus the temple of Aphrodite was probably a sanctuary of the old city of *Euesperides* which remained in use long after *Berenice* was founded. Statues of Aphrodite have, in fact, been found in the vicinity of the *Euesperides* site[8].

[7] Strabo, XVII, 3, 20.

[8] Ghislanzoni, op. cit., p. 7.

Strabo also refers to the ' Harbour of the Hesperides ' (probably the lagoon of the Sebka ez-Zreriia) and to the ' River Lathon '. The famous ' Gardens of the Hesperides ' in this same area have been convincingly identified with the series of small natural depressions which lie north of the Benghazi-Benina road. In the largest of these depressions, near which King Idris of Libya now has a palace, there is an underground pool which probably gave rise to the fable of the ' River Lethe ', but there is, in fact, no real underground watercourse anywhere in the area, although a high-level water-table permeates the whole region. Now that the true site of *Euesperides* is known, one can see how close to the city were the famed ' Gardens '.

Mutilated as it is, *Euesperides* is hardly likely to attract tourists and scholars away from the better-known ruins of Cyrene ; but it offers the archaeologist a magnificent opportunity of finding early Greek levels close to the surface and without Roman intrusion. The walls of the town buildings have gone, but the floors which they surrounded remain, in some areas, intact. The proximity of the cemetery—and, indeed, of modern Benghazi—counsels urgency in the investigation of this important site. It is therefore particularly reassuring to learn that Mr C. N. Johns, the present Controller of Antiquities in Cyrenaica, began preliminary excavations at *Euesperides* in the autumn of 1952, under the auspices of the Ashmolean Museum, Oxford. R. G. GOODCHILD.

JEBEL ANAZEH IN JORDAN, IRAQ AND SAUDI ARABIA

A low hill amid flint and gravel-strewn terrain marks the focal point of three countries. A cairn of limestone blocks built on the highest point is the southeastern corner of the Hashemite Kingdom of the Jordan, the southwestern angle of Iraq and the most northerly point of Saudi Arabia.

Jebel Anazeh (Enaze, Anaiza) is also famous in this great wilderness, for from its southern flank a narrow gully leads down to the undulating plain ; this is the origin of the great Wadi Hauran which meanders northeast past spotlevel 2301 to El Mat just north of Rutba Wells to join the Euphrates south of Haditha.

In March, 1928, as leader of the Second Field Museum North Arabian Desert Expedition I was privileged to accompany the Iraq Petroleum Company's Survey Party under W. E. Browne, who was searching for the best alignment for the proposed pipeline from Kirkuk to Haifa. Our purpose was to record archaeological data, particularly surface Stone Age sites.

On Jebel Anazeh flint stone implements of Middle and Upper Palaeolithic types were found, indicating that this modern international landmark was visited by the Prehistoric hunters. At that time the Wadi Hauran flowed with water, for we traced camp-sites along its edges for a hundred miles.

To the southeast on top of Umm Wual a fine series of deeply-patinated Mousterian implements were collected.

In June, 1951, during the Peabody Museum-Harvard Expedition I found Palaeolithic implements on the summit and eastern slopes of Tell el-Hibr, some thirty airline miles to the southwest in Saudi Arabia. On Jebel Anazeh in 1928 I collected implements of honey-coloured flint which must have come from Tell el-Hibr. This flint fractures easily and is reminiscent of the ' livres de beurre ' of Grande-Pressigny, one of the first articles of commerce in Western Europe.

Beduins visit Jebel Anazeh on their way to grass or to the wells at El Jidd, El Mat and Rutba. They bury their dead near its summit. They hammer their tribal marks (*wasm*, pl. *wusum* or *wasmat*) on the limestone boulders to record their passing.

a. CAMEL-BRANDS HAMMERED ON LIMESTONE BLOCKS JEBEL ANAZEH

b. CAMEL-BRANDS AND GRAFFITI ON LIMESTONE BOULDER, JEBEL ANAZEH

Photos by Field Museum North Arabian Desert Expedition, 1928

Before the Nairn Overland Desert cars roared through the ' blue ' on the Jerusalem-Amman-Rutba-Baghdad run or the Cairo-Baghdad Air Mail hummed overhead, the Beduins, usually guided by a Sulubbi, hunted the ostrich from Tellul Basatin midway between Jebel Anazeh and Jebel et-Tinf (the central south Syrian-Iraq boundary point) as far south as the Laha Depression, the last sanctuary of the Arabian ostrich in this area.

Near Jebel Anazeh we drove over the top of a low escarpment to see a herd of 300 gazelle kicking up puffs of dust as they dashed madly away from the roaring monsters which disturbed their privacy.

In these days Jebel Anazeh is quiet for it lies off the direct path of the ever-flowing oil. Its fame is assured for it appears on every map of Southwestern Asia.

HENRY FIELD.

Reviews

EXCAVATIONS IN MESOPOTAMIA AND WESTERN IRAN : Sites of 4000–500 B.C. Graphic Analyses *by* HENRY WARE ELIOT, JR., Art Work *by* THERESA GARRETT ELIOT. *Special Publication of the Peabody Museum, Harvard University, Cambridge, Mass.*, 1950.

Most of the results of fifty years' digging in the Tigris-Euphrates valley are still scattered among various periodicals and preliminary reports ; to find out what has been dug up at Uruk-Warka one has to turn up eleven ' vorlaufige Berichten ' and three special monographs ; ' Ur Excavations ' provided articles for *Antiquaries Journal* for ten years, only a small fraction of which can now be replaced by the two volumes of the British Museum official publication. Reports on Susa are still more widely dispersed. As a student and in preparing the Nuzi pottery for publication, the late H. W. Eliot, like the rest of us, had to summarize for himself the often contradictory reports and make shorthand copies of the published figures of types he needed to remember. But he saw that this immense preparatory labour, imposed on all scholars, is an intolerable obstacle to the progress of knowledge, and that to relieve his colleagues and successors of this burden would in itself be a contribution to knowledge. He found in his wife a competent draughtswoman who would collaborate and who could translate the rough mnemonic sketches all of us make in reading such reports into neat line-drawings that for practically every purpose are serviceable substitutes for the original published plans, figures and even half-tone plates. In 1947 untimely death cut short the execution of his well-designed project. The major part of the section devoted to Babylonia had, however, been completed, and this the Peabody Museum has now made available to his colleagues in a handsome atlas.

In publishing Eliot's work so sumptuously the Museum and University have earned the gratitude of all students of Near Eastern archaeology and history, and have ensured to the author a reputation no less honourable than any he might have earned had he ' devoted those years to writing books and articles ' instead of providing ' the information that would enable others to write ' as Lauriston Ward puts it in his Foreword. The atlas consists of seventeen double-sided sheets of stiff card, 2 ft. by 1½ ft. Each page, called an ' Exhibit ', usually combines plans and line-drawings with a typescript text, both reproduced photographically with complete success. Seven exhibits are devoted to Uruk-Warka (the Erech of the English Bible), six to Ur, four to Kish, two to al'Ubaid and one to Jemdet Nasr, but no less than ten to Susa. A comprehensive map of sites throughout the Near East (which means in American today what it did in English in the days of Hall and Hogarth) precedes the exhibits, while a comparative table of selected ceramic and metal forms from type sites follows the rest. We are told that the author had planned to include Babylon and Lagash (Tello) and may assume that, had he lived, he would have treated Eridu, Shuruppak and Uqair too.

An exhaustive bibliography, going back to the days of Loftus and Dieulafoy, is included in the exhibits dealing with each site, and will be an immense convenience to specialists who must of course bear in mind the date of completion ; neither the XIth vorlaufige Bericht on Uruk-Warka nor Mémoires XXIX and XXX of the Délegation en Perse seem to have reached Harvard in time for inclusion. No less convenient are the comprehensive plans of all sites ; the general plan is all too often missing from the particular heavy tome one happens to be reading ! A very wide and judiciously chosen selection of

objects—vases of clay, stone and metal, metal tools, weapons, ornaments, tyres and harness-fittings, seals, pictographic tablets and even such sculptures as the Lion Hunt stele from Erech and the Code of Hammurabi from Susa—is admirably reproduced though generally without indication of scale. Brick sizes are recorded in all cases. Objects are described in connexion with the layers to which the excavators most often attribute them—they sometimes contradict themselves—but the text gives a critical appraisal of the excavation reports which shows how unsatisfactory the stratigraphical evidence often is. The author does his best to summarize the published evidence objectively and yet extract some consistent picture from it; in the case of Susa the conflicting reports on the several *sondages* are set out side by side in parallel columns! Sometimes the scepticism thus engendered may have carried the author a little too far; there is really no need to regard as intrusive in the 'Jemdet Nasr' layer of the 'Acropole–Sondage I' at Susa the copper shaft-hole adze which might very appositely have been figured on the last exhibit to emphasize the continuity between Uruk-Jemdet Nasr and Early Dynastic. Still these sceptical warnings are necessary in a summary too concise to reveal fully the shortcomings of oriental excavation and of its publication, and the student is free to accept or reject the excavator's statement in their light.

In fact Eliot offers his readers much more than a mere illustrated summary of excavators' observations and deductions. His critical analysis of the material summarized has inspired constructive suggestions. Many of the original contributions are modestly hidden, but stimulating heresies on chronological and terminological questions are boldly set forth and argued. It will be remembered that as late as 1925 the 'Pre-Sargonic' or 'Archaic Sumerian' era still faced directly the prehistoric age of painted pottery, best known then from al'Ubaid. Then in 1926 Langdon's excavation of Jemdet Nasr disclosed a culture with painted pottery that was epigraphically and stylistically older than 'Pre-Sargonic' but later than al'Ubaid. Next in 1930, Jordan, exploring the E-anna at Erech, exposed in layers –IV to –VI a series of temples with pottery, seals, and tablets different from, and epigraphically earlier than, those from Jemdet Nasr which he assigned to a Uruk period; in 1931 Heinrich and von Haller reached in a pit below the temple floors strata –VII to –XII containing unpainted pottery superimposed upon those containing al'Ubaid wares and assigned them too to the Uruk period. Finally in 1934 Frankfort proposed a tripartite division of the 'Pre-Sargonic' into Early Dynastic I, II and III based on the stratigraphy of Tell Asmer and Khafaje.

Now Eliot quite rightly insists that the material from the several 'Uruk' levels in the E-anna is far from homogeneous; the pottery from the deep levels in the pit represents a different assemblage from that recovered from the temples of –V and –IV, and the latter comprises many types that recur at Jemdet Nasr. The disparity within the old Uruk period is indeed a fact which other authorities have independently recognized as needing terminological expression. Seton Lloyd gives it recognition by a distinction between Early and Late Uruk. Delougaz confines the term Uruk to the sort of material collected from the pit in the E-anna and assigns the temples of –V and –IV and cognate pottery and seals to a Protoliterate Period *a* which is not yet Jemdet Nasr. On the last page Eliot notes with approval Delougaz' proposal, but has already on Exhibit VI frankly assigned the temples, seals and tablets to the Jemdet Nasr period, confining the term Uruk to material from lower levels in the pit. He goes on there to argue that in terms of the historical traditions preserved in the Sumerian King List his Jemdet Nasr ought to be called Early Dynastic I. He does not apply the latter terminology in the remaining exhibits, but in dealing with Susa he does use Jemdet Nasr in the extended sense he defended on Exhibit VI.

Admittedly the polychrome pottery that was first used to define the Jemdet Nasr period is poorly represented in the published material from Warka and indeed from any site in Sumer ; much of the material from the Flood Pit at Ur, described by Woolley as Jemdet Nasr in 1930, would, if published, have been labelled Uruk in 1940. Uqair has since provided plenty of typical polychrome pottery, stratified above unpainted Uruk, but Uqair is in Akkad. On the other hand quite a number of unpainted pot-forms from Jemdet Nasr can in fact be matched in the old ' Uruk ' levels at Warka. Of course Uruk is distinguished from Jemdet Nasr not only by ceramic types but also by artistic styles. But these seem to offer a rather subjective criterion. At Warka itself several objects, including the Lion Hunt stele and some seals from the *Sammelfund*, actually found in the ' Jemdet Nasr ' level –III, have been assigned to the Uruk period and explained as votives preserved from earlier temples. In dealing with the seals Eliot concludes that Frankfort's ' rule appears to be to assign those of superior quality to the Uruk period and inferior ones to Jemdet Nasr on the theory that glyptic deteriorated '. He suggests himself that the real differences in style may be due as much to divergences between artistic schools as to disparities in age.

The divisions of Early Dynastic are subjected to the same sort of criticism. Following Harden, Eliot can show the close continuity of types both within Early Dynastic and between it and Jemdet Nasr and Uruk. The point is brought out graphically in the table of pottery types on p. 33 which, however, likewise shows that the differences, if small, can easily be grasped even from figures. Only at his peril can an archaeologist accept a couple of ceramic or metal shapes as type fossils, sufficient in themselves to date an assemblage ; periods will have to be defined statistically by the relative frequencies of types, but material for such treatment is seldom available in the publications. In any case the chronologist may be discouraged by the continuity revealed from exaggerating the length of the several periods. Perhaps Delougaz' ' reasoned guess ' of 1000 odd years for Early Dynastic and Protoliterate is not so ' reasonable ' after all. On the other hand it may only mean that four—or five-thousand years ago Sumerians changed their fashions a great deal more slowly than Americans of today. The hint, first given in Exhibit VI but repeated on p. 33, that the transition from Late Uruk to Jemdet Nasr may really be ' dynastic ', deserves serious consideration. If Erech were then in some degree an ' imperial city ', the magnificence of the temples in –V and –VI would cease to be surprising. If the epigraphic conventions then adopted by the temple clerks became the medium of communication of an empire, their general adoption throughout Babylonia, but not in Elam, could be explained. But Jacobsen's ' primitive democracy ' would have to be pushed back into the remote Ubaid period while current accounts of the Urban Revolution in Mesopotamia would need drastic revision.

V. Gordon Childe.

EARLY MAN IN THE NEW WORLD. *By* Kenneth MacGowan. *Macmillan, New York* 1950. 251 *pp., text* 218 *illustrations, Index and Bibliography. Price* 37*s* 6*d.*

Mr MacGowan is to be congratulated on what is undoubtedly a very useful introductory text book to American prehistory, as are the publishers on a very well produced and well illustrated book. Mr Campbell Grant's black and white illustrations are particularly good especially those illustrating flaking techniques and objects and uses of ethnographical specimens. The obvious care that the author has taken in the choice and presentation of his tables and illustrations has resulted in a very happy corroboration of the text. For example the pages embodying the four main stages of the Wisconsin glaciation, the repetition of time scales on different pages in the chapter on Old World

prehistory and chronology and the tables of the important sites of Early Man in the New World, the diagram to illustrate the solar radiation theory to explain the Pleistocene glaciations, facilitate reference and make the text even clearer if this is possible. The publishers may perhaps be criticised for putting the selling price of the book quite as high as they have, as this may act as a deterrent to some who would otherwise have purchased the book.

Mr MacGowan's text is easily readable and for a book which contains so many facts and theories it is remarkable how he has contrived to make it so enjoyable to read. One does not feel that the stone tools, extinct fauna, and human remains which he describes are dead and lifeless things to be treated as geological fossils and nothing more; rather one obtains a very clear picture of the life of the Folsom bison hunters, or the Cochise food gatherers, and the environment in which they lived.

The underlying question right through the book is of course the age of Man in the New World and from where he penetrated to the American continent. The author gives due consideration to the work of many others in this subject, and one must admire the way in which he gives to each theory, however fantastical, the consideration it deserves, so that we can follow him the whole of the way to the conclusions which he draws. Not a little of the value of the book comes from the fact, however, that the author does not draw didactic conclusions where no such conclusions are yet possible. The facts are reviewed with all care and their interpretations by the different workers are set out, but we are very rightly often left to draw our own conclusions. While at the time this book was written many still have doubted that the antiquity of Man in the Americas reached back to the end of the last glaciation, the development of the C14 radiocarbon method of dating has since remarkably confirmed the view of the majority of American prehistorians that he must go back at least to this time, perhaps earlier.

The author discusses all the possible migration routes and shows that the Arctic Circle route from Siberia across the Bering Strait to Alaska was the only really practical one. His chapter on the Great Ice Age is a useful summary and prepares the stage for the description of all the more important sites where fossil man and his tools have been discovered. His chapters on Old World prehistory may perhaps be criticised on several points, the main one being that he appears to be under the impression that Mortillet's classification still holds its own in the minds of many prehistorians in different parts of the world. Mr MacGowan has as one may say, gone out of his way almost to over emphasize that this classification cannot now be applied with exactitude anywhere outside a small part of Western Europe. He appears to be unaware that, for example, workers in African prehistory, have not attempted to apply this classification in their continent since the early years of the century. Quite rightly Mr MacGowan points to the dangers of universal time scales, but one would have preferred to have seen less emphasis on this point.

The rest of this chapter is a useful summary of the established Western European cultural succession, with a fuller consideration of the Solutrean, induced quite naturally because of the early American pressure flaked points.

The author may be criticised for his retention of the cultural term 'Yuma'. Radiocarbon dating has now confirmed that the continued use of this 'omnibus' will have to be discontinued as unjustified, containing as it does several distinctive types of point. When describing the various early American cultures the author confines himself almost entirely to consideration of the 'type fossils' — the now well known 'points' of the Folsom hunting-groups and the grindstones of the food gatherers. One would have liked to have known more of the rest of the material culture indicated by scrapers and cutting tools and the rest of the stone industries.

An important chapter discusses the great extinction of the Pleistocene fauna and the possible causes of this. The different physical types of Man as indicated by fossil man are considered. The book ends with a discussion on the origin of the cultures of Early Man in the Americas—whether they are due to diffusion or independent invention. The book entirely fulfils its purpose which is to provide an introduction to the study of Early Man in the New World ; and it makes very enjoyable reading.

J. Desmond Clark.

ANATOLIAN STUDIES. Vol. I. *Journal of the British Institute of Archaeology at Ankara. Published by the Institute at* 56 *Queen Anne Street, London*, W. 1. 1951.

Archaeologists will give an even warmer welcome than is usual to a new periodical to Volume I of *Anatolian Studies*. It is the first periodical in English devoted to the study of the archaeology of the area covered by the modern Turkey. It is a record of the activities of the newest of the British Schools of Archaeology overseas, and in welcoming it we congratulate Professor Garstang, the prime begetter of the Institute. It is a pleasantly produced volume of good format and print, and for this we congratulate the Editor, Professor Childe. It includes reports of excellent work already accomplished by the Institute, and for this we congratulate the Director, Mr Seton Lloyd.

The volume contains a summary of archaeological research in Turkey, 1949–50, which is invaluable for reference, and which shows the wealth of work in progress there, all too little known hitherto in this country. There are reports of the Institute's work at Polatli, valuable for its excellent stratigraphical succession from the Chalcolithic to the Hittite periods and the detailed publication of the pottery therefrom, and at Harran, a site of importance as early as the time of Abraham, but where the present work was concerned mainly with the remarkable medieval remains, and on Mr Sinclair Hood's excavations at Tabara el Akrad, which are especially useful for a study of Khirbet Kerak ware. The matter of this first volume should bring many new subscribers to the Institute.

A few blemishes are noted, in the hope that their future omission may improve the already first class publication. Why, with the present cost of paper are there two blank pages ? The diagram on p. 33 reaches the extreme limit of legibility, and the names on the plan of Harran pass it (quite unnecessarily, as there is plenty of space). And for the drawings of pottery, which are in themselves excellent, might one plead for the blacked-in sections usual in British archaeology, and the omission of the bounding lines ? By forming the edge of the figure with the edges of the drawings one saves a lot of space, and the unpleasing overlapping of drawings might be avoided. The sections of stratification in the Tabara el Akrad report leave much to be desired.

These are small points, and one would wish to end on a whole-hearted welcome and praise for an excellent publication. K.M.K.

POTTERY FROM THE DIYALA REGION. *By* Pinhas Delougaz (The University of Chicago, *Oriental Institute Publications*, *vol.* LXIII). XXII+182 *pp.*+204 *plates*, *Chicago*, 1952.

The Oriental Institute's excavations at Khafaje, Tell Asmar and Tell Agrab yielded the first complete series of stratified relics from Jemdet Nasr (here termed ' Protoliterate c-d ') to Sargonid times, and on them Prof. Frankfort based his three-fold division of the Early Dynastic period that had hitherto been treated as an indivisible ' Pre-Sargonic era '. Now the ceramic documents are fully published and illustrated with 16 coloured plates, 116 half-tone plates, and 83 plates of section drawings. The immense mass

of pottery, so thoroughly studied by Delougaz, confirms the conclusions reached by Frankfort in 1936 and introduces only minor modifications. In the ' Pre-Sargonic ' it has been possible to distinguish a fourth phase, termed the Protoimperial and equivalent to the century beginning with the accession of Entemena of Lagash. Scarlet Ware, recognized by Frankfort as distinctive of Early Dynastic I, may in fact outlast that period ; in particular Delougaz argues, but on typological rather than stratigraphically certified analogies, that the famous chariot vase in the British Museum should be classed as E.D.II. The well-documented series of Early Dynastic types should provide a standard of comparison with the aid of which unstratified sepulchral finds from other Mesopotamian sites may be more precisely dated ; Delougaz himself makes some suggestive and startling comparisons with the Royal Cemetery at Ur. But in practice his very original system of classification is a serious obstacle to such use of the material.

The author was faced with an unprecedented volume of material to arrange, and to deal with it he has evolved, as Prof. Frankfort says in the Foreword, ' a completely new type of classification '. It is indeed strictly logical and yet simple, precise (being based largely on metrical qualities) and capable of use by a novice. But, in contrast to Petrie's ' empirical system ', it fails to bring together types that are related chronologically or genetically. The new type of classification is in fact modelled on the Dewey decimal system of library classification, enlarged by prefixing A, B, C, D or E to the six numerals to indicate absolute size. The first digit indicates basic geometrical forms or simple combinations of such, the next modifications or further combinations, the third proportions, and the last three features like base, neck, spouts and so on. (It must be remembered that the bulk of the material is plain drab wheel-made ware so that peculiarities of fabric and decoration can be and are discussed outside this frame). In his descriptive text Delougaz does not use his own system but treats together types that have empirically been found to be significantly related under descriptive terms like ' four-lugged jars ', ' spouted jars ', ' upright-handled jars '. But in the catalogue section which contains details of provenance, number of examples, section drawings and comparisons with other sites, these groups are dismembered, the objects being arranged first in sizes (all A sizes together), and then according to the generalized forms indicated by the first digits. As a result ' four-lugged jars ' appear under A.604,223 ; A.633,263 ; B.455,253 ; B.663,213 ; C.493,253 ; C.634,253 ; D.504,253 and at intermediate points. On the other hand plate 187 containing ' forms C.653–C.655 ' presents twelve vases that have no visible relationship and chronologically are dated ' Protoimp.' ; ' ED.III ' ; ' Protolit.d ' ; ' Protolit.c ' ; ' ED.III ' ; ' ED.II ' ; and even ' E. Larsa '. To trace the variation with time of, say, the spouted jar or to ascertain the relative frequency of a variant in a given period the reader must therefore go through in turn all the pages of Bs, Cs and Ds fixing his eye on the last digit in the columns. At the same time this system precludes the author from presenting a full statistical analysis of the distribution of types by layers ; for only complete or restorable vessels can be classified under the first two or three decimals of his system though spouts, which are exceptionally durable, and even their variants could have been almost fully enumerated.

V. GORDON CHILDE

NOTES ON ARCHAEOLOGICAL TECHNIQUE. Third Edition. *Ashmolean Museum Publication, Oxford* 1950. *25 pp. Price 1s 6d.*

The publication of the latest edition of this small handbook for amateur archaeologists, first issued in 1940, is now entirely the responsibility of the Ashmolean Museum, incorporating revised sections by members of the Oxford University Archaeological Society and others.

The book is intended primarily for the excavator of rescue digs—sites uncovered by commercial or other undertakings which will necessarily be destroyed. The writers quite rightly stress that skill and proficiency as an excavator can only be attained by experience ; but it might perhaps have been stressed in particular that the best way of obtaining this is to work for one or more seasons under an experienced and professional excavator. It might even be said that only by, as it were, serving his apprenticeship in this manner will an excavator obtain the true experience that is the very essence of good excavation.

The notes contained in this handbook are written primarily for the excavation of British sites and can be applied to most small open sites dating from the Mesolithic period upwards.

The introduction would bear careful reading more than once by the excavator approaching the subject for the first time as it rightly stresses that excavation is essentially hard and exacting work calling for much care and patience and often not a little endurance, and that once a site has been excavated it is lost for ever so that it is for the excavator to extract from the site the fullest possible details.

Sections are included on initial arrangements, tools and equipment, the excavation proper, recording of finds, plans, maps, sections, drawings and photography, with a special section on the treatment of pottery, presumably because this is considered to be the most common form of find that will be made.

Some of the advice, such as ' do not walk through or trample down standing crops ' would seem to be hardly necessary ; but for the most part these notes are just such as should prove useful to the amateur. The section on excavation is clear and full of important advice which should always be followed. Due stress is laid on the stratification of a site, though the digging of layers, even deep ones, in spits of 6–9 inches is perhaps rather unwise, in the initial stages of the dig certainly. The importance of an accurate and complete record is given the emphasis it deserves and particulars of the kinds of records that should be kept are given.

The section on photography is valuable, though in the reviewer's experience, when dealing with a site which is to be completely destroyed it is a little unwise to place reliance on as few as two photographs of any subject especially if there is any delay between exposure and developing.

The handbook closes with a short section on the final report on the excavation rightly pointing out that it might as well never have been undertaken if the results are not published a point, incidentally, not only for the amateur archaeologist. A short bibliography giving information on further books for the general reader is also available. These Notes will obviously prove of value to would-be archaeologists in the same way as the earlier editions have proved to have been. J. Desmond Clark.

ARCHAEOLOGICAL RESEARCH IN INDO-CHINA, Vol. II : The district of Chiu-Chên during the Han dynasty. *By* Professor Olov Janse. *Harvard University Press, 300 pages, 43 plates, 144 figures in the text, and one general map.*

The first volume of the author's work has already been reviewed by the writer in the September 1951 issue of Antiquity, pp. 118 to 122, and, in view of the detailed treatment of the contents of vol. I, we shall here be content to mention merely a few of the finds which may be of a special interest to students of the culture of the Han period. Most of the finds in the many tombs excavated and studied by Prof. Janse have been briefly treated in vol. I but in vol. II they are subjected to a closer examination besides being compared with similar objects in the neighbouring countries, such as China,

Champā, Cambodia, Siam and even in far away Japan and India. Indeed it is interesting to observe how the two main currents of ancient Chinese and Indian civilization and art meet and mingle in the vast peninsula of Indo-China which, just because of this blend of cultures, might well, and with greater reason, be called Indo-China than Further India.

Prof. Janse, whose reading seems to be encyclopaedic as regards the Far East and other parts of Asia, is a careful worker, and his reports on the finds in the numerous tombs excavated by him are detailed and the description precise, setting an example of how such research work should be carried out. As already said, the Vietnamese are *au fond* Indonesians who, resting on a basis of a now vanished Melanesian population, have suffered inroads by Môn-Khmers, Thai and, especially, Chinese. All of them leaving a strong linguistic and cultural imprint on the Vietnamese. An intensified study of their material and spiritual culture would perhaps reveal traits inherited by present-day Vietnamese from all of their predecessors, the primitive Melanesians included.

In his preface to vol. II the learned author points out that the finds in the Han tombs not only do throw light on the hitherto little known Southern sphere of the classical Chinese civilization but, in addition, the study of certain unique pieces (f.i. of bronze lamps and lampadairs, pottery types, beads, etc.) seem to reveal commercial and cultural relations with both the distant Indo-Iranian world, and perhaps even with the shores of the Eastern Mediterranean, which is of particular interest for the study of the diffusion of human culture. In this connection the author very aptly remarks that there is ample evidence that, when it comes to the study of the past, we have often to think in terms of oceans and continents. A third volume, treating the excavations made at the ancient Indonesian dwelling place at Dông-Sön, will be published by the Institut Belge des Hautes Études Chinoises (Brussels). This third volume will complete the publication of Prof. Janse's excavations of the Han monuments in the Than-hoa province in North Annam. It will be remembered that it was in the district of Dông-sön that a rich bronze culture, dating back to the middle of the 1st century A.D., was discovered by French archaeologists already in 1924. The finds included both Chinese and, what now must be termed, Indonesian ones. Among the latter were the famous bronze drums decorated with scenes depicting the voyage of the dead across the ocean to the Happy isles).[1] Similar scenes are represented in the pictures of the primitive Dayaks in British North Borneo which shows the ethnic and cultural relationship of the ancient Dông-sönians with the populations of Insulinde. The text of this second volume of Professor Janse's is divided into 16 chapters ; each chapter treating a particular group of mounds with the subterranean tombs and their funerary deposits. At one place in Northern Than-hoa were found no less than 30 mounds of which 27 were excavated. It seems that a flourishing Chinese colony existed here formerly. As already said in the review of vol. I the majority of the tombs were built of bricks, funnel or tunnel-shaped, with vaulted roofs, only in some few cases were the roofs or the entire tomb built of wooden slabs, since rotted away.

The orientation of the tombs was evidently not regarded as important, for some are oriented N.–S., others N.E.–S.W. or E.–W. The bricks used are generally well made, though of varying size, and often decorated with various incised patterns. Such decorations of bricks were common in ancient Champā (the hinduized Indonesian kingdom in Annam), as well as in Cambodia. The author's comparisons of the Han tombs in

[1] *Vide* Victor Goloubew, ' L'Age du bronze au Tonkin et au Nord Annam '. *B.E.F.E.O.*, vol. XXIX, 1929, and his explanation of the frieze on the so-called Curtis vase in the Musée de Louvre, Cahiers de l'École Française d'Extrême Orient. No. 30 (1942), page 23.

Annam with ancient tombs at Lô-yang in Honan and in Shantung, and even in distant Korea, show how widespread and uniform was the old Chinese culture. Besides the bronzes and ceramics already described in vol. I there were also found, in a few places some silver rings and gold drops. Precious metals were, as a rule, absent but they may have been stolen in the many tombs rifled by sacrilegious treasure hunters. The ceramics are often decorated with the quatrefoil pattern. Many of the bronze objects found are of a very large size such as cauldrons, bowls and jars. The numerous mirrors, lamps and lampadairs, also made of this alloy, easily surpass the rest of the finds in interest by reason of their artistic shapes and decoration. The lamps or lampadairs often take the shape of kneeling human figures carrying the lamp-stands. As these human figures have quite un-Chinese features (with wavy hair, or even curled), besides by reason of their lack of clothing, they no doubt represent Indonesian individuals, to wit Chām people. Such figures have been called lamp-carrying Chām prisoners. They may, however, represent certain of their princes taken prisoner by the invading Chinese. In Note 105, p. 46, the author talks of the possibility of Etruscan lamps finding their way via the Near East (Parthia) out to the Far East in the 1st century A.D. In this connection Prof. George Coedès' find of a Pompeiian bronze lamp at the ruined Indian settlement of Phŏng Tük in West Siam may be recalled.[2]

Some of the bronze lamps are in the shape of three-legged birds with a dragon as handle. The most curious object of bronze found was that of a statuette of a kneeling man (un-Chinese of features and in dress) who is holding a tray in both his hands. Eleven gnomes are placed at various places on his body ; some of them beat cymbals or play on flute whilst others are grasping three twigs, which are attached to the arms and the back of the main figure, the twigs being used as lamp carriers. The meaning of this statuette has been the object of much speculation, the late M. Przeluski opining that the figure represents the Giant Purusa and the figurines common men. However, the kneeling figure may also represent a Lokapala, a king of the Yaksas, and the late M. Goloubew suggested that its prototype came from Mathurā in India to Champā from where it was adopted by the Chinese colonists in North Annam. Another bronze figure, found at Dông-sŏn, holding a spear in his hand, is called a ' barbarian ' because of his curly hair and scant clothing. Lamp-carrying figures are also found in Cambodia and Siam taking the shape of Apsaras (heavenly dancers) and elephants respectively ; but these are of a much later origin than our above-mentioned figures. The author also discusses the meaning of the tree or twigs that are attached to statuettes. He thinks that they may represent the cosmic tree, the tree of knowledge and of life, or the solar tree with its sun birds, which is a conception hailing from the West. He also relates the Chinese fable about the ten suns that threaten to burn up all life on the earth, and how, by order of the mythical Emperor Yao, a divine archer shot down nine of the suns thereby saving mankind. This myth is well known among the savage Moi or Khā of the Annamite cordillera. There is a continuation of the Chinese fable (not known to the Khā people), according to which the divine archer was rewarded for his superb archery with an elixir of immortality which was tasted by his disobedient wife. As a punishment she was exiled to the moon. Here she is visited every fifteen days (the lunar phases) by her husband who lives in a palace in the sun. The latter part of this fable seems somewhat construed in order to explain a natural phenomenon. However, the ideas connected with a tree of life and knowledge and the disobedient woman seem to be but a

[2] *Vide* George Coedès, ' The excavations at Phŏng Tük and their importance for the ancient history of Siam ', *Journal of the Siam Society*, vol. XXI, part 3.

faint echo of the tale related in the Book of Genesis. The above mentioned bronze figures are also compared with certain stone sculptures of the Chām art such as the cross-legged sitting bearded ascete wearing a pointed head gear which bears an undeniable likeness to the bronze statuettes thereby confirming the Indonesian inspiratian of these. Among the finds was also a ' magic ' cauldron, self-boiling and self-producing food which leads the thought onto the old Nordic fairy tale of ' Boil little pot '. The author remarks that the huge bronze cauldrons in the Imperial palace in Hué are symbolic of the Imperial dynasty's power (see also the magic kettles of the ancient Chou dynasty).

Among the funerary goods were earthen steam-pots and bowls for boiling soup of just the same shape as their modern counterparts in China and Indo-China. Weapons and implements of iron were but rarely found in the tombs though the iron age was well on its way during the Han period, and only once was a complete skeleton found. The many bronze mirrors were often found lying on the very spot where the hands of the dead person probably had been. Were such finds of mirrors not an indication that the deceased was a woman ? It is curious that among the many ceramics used as lamps some are of the same shape as those seen in the reliefs in Singhasari (Java) and of those found in the 25 B.C. necropolis at Susa ! It seems that the prototype of the ceramic lamps of the Far East may be sought for in the Near East. A unique find was a glass egg which may symbolize the resurrection. Such eggs are also found in Viking tombs in Sweden (A.D. 800–1050). Our Easter eggs also symbolize resurrection. The earthen mounds covering the tombs are generally very low, a few reaching a height of 4 metres, and are thus not to be compared with our Nordic ' Giants Hills '. Only in one tomb were the trappings of a horse found. This might mean a horse sacrifice as at the burial of great Chao Fà princes in Shanland. Among the iron swords found one was ornamented with an appliqué startlingly similar to that seen on a Merovingian sword ! Though not many of the graves excavated by Prof. Janse were untouched the sum total of the finds made was nevertheless very rich and instructive. Prof. Janse also examined some kilns from the Han period containing thousands of pot-sherds and glazed tiles besides jars, bowls, vases and even funeral jars. ERIK SEIDENFADEN.

SCRIPTA MINOA. The Written Documents of Minoan Crete with Special Reference to the Archives of Knossos, *by* A. J. EVANS. Volume II, *The Archives of Knossos.* Clay tablets inscribed in Minoan Script B *edited from Notes and supplemented by* J. L. MYRES. *Published for the Oxford University Press by Geoffrey Cumberlege* ; VI + 102 *pp.*, 5 *tables*, 82 *collotype plates.* U.K. *Price* £10 10*s* 0*d. net.*

It is a difficult and somewhat thankless task to edit another man's work many years after his death, but rarely can such a work have been carried out with more loving care than this volume. The ' editing and supplementing ' by Sir John Myres represent no light work since the scope of it varies from that originally planned by the author. Pugliese Carratelli's publication of the Hagia Triada tablets rendered further work on them unnecessary for the present. The cost of publication had risen greatly. The editor therefore decided not to publish in detail the Linear Script A texts (not very numerous if one excludes those already published), but to concentrate on a full and complete publication of the tablets of Linear Script B, which in Crete is peculiar to Knossos though more widely distributed on the mainland. Volume II however does include the photographic plates of the B tablets, which under Evans' original scheme would have been left for Volume III. The first 36 pages explain the characteristics of the two linear signaries with lists of the signs common to both and those peculiar to each.

To the ' new material ' mentioned on p. 36 may be added the Apodhoulou stone vase with a linear A inscription, and the axe from Arkalokhori and the unwrought stone from Mallia (both with hieroglyphic inscriptions). The next 30 pages describe Script B with suggested uses and significances for individual signs. Evans deserves the greatest credit for his restraint in refraining from speculation on linguistic parallels and phonetic equivalents, and for that and other reasons his work will continue to be valuable when the ingenious speculations of Dr Hrozny have joined the still more imaginative interpretations of Mr Gordon in the limbo of ' forgotten fairy tales '. Some of the most valuable features of this book are the concordance which enable us to correlate plates and line drawings with the numbers in Evans' list and with those of the Herakleion Museum inventory. A smart piece of detection by Myres reveals the disturbing fact that the tablets published from the Giamalakis' collection, were apparently at an earlier date in the Herakleion Museum !

The printing, line drawings and plates are all admirable and the work will be indispensable to all archaeological libraries. R. W. HUTCHINSON.

THE TEDA OF TIBESTI, BORKU AND KAWAR IN THE EASTERN SAHARA. *By* WALTER CLINE. No. 12, General Series in Anthropology. *Wisconsin*, 1950. 52 *pp.* (*one map*). *Price not stated.*

This new addition to an already well-known and useful series does not claim to be in any way original. It is a compilation from sources given in the Bibliography. After a short description of the country, the matter is grouped under the following headings :— the identity of the Teda and their neighbours (with paragraphs on the population, the clans, and the history of Tibesti) ; their economic, material and social life, and religious practices and burial. In his preface the author draws attention to the blankness of the best picture that can be drawn from his sources, and expresses the hope that ' some rugged young desert-lover will take my notes with him to Tibesti, learn the Teda languages, fill in all the gaping lacunae—and return to his university alive '. If he is an ethnologist there is much about the various clans of the Teda, their history and customs that he can add. The reviewer has no more first-hand knowledge of Tibesti than the author, although he does know their south-eastern neighbours and relatives the Zaghawa of northern Darfur ; and he is confident that there is much more to be found out, for example, about the past of the ruling section the Tomaghera that will add to the history not only of Tibesti but of Darfur. Incidentally the Birriarra do not ally themselves with *negro* chiefs of Darfur as stated on p. 44 but with their relatives the Tungur who are not of negro origin. And it is not correct to state as on p. 8 that no direct route from Tibesti to the upper Nile has been frequented in modern times. Fezzani traders regularly make the journey via Faya and Fada to El Fasher, and there is thence a much frequented road via El Obeid to the White Nile in the region of Kosti. There is no doubt much about the life of the Teda that our ethnologist can collect that will be of the greatest interest to pre-historians comparable to the impermeable basket for milk mentioned on pp. 29 and 39 which must have been a fore-runner of pottery in the history of domestic utensils. And if he is an archaeologist acquainted with the neolithic cultures of the Khartoum area and the Fayum, and able to make a sufficiently leisurely survey of the sites just mentioned on pp. 18–19, and the right choice of one of them for excavation on a subsequent expedition, he will probably find (for reasons that have already been stated on pp. 220–1 of Vol. xxx of *Sudan Notes and Records*), the key to the riddle why the Khartoum and Fayum cultures, although a thousand miles apart, have a remarkable number of features in common, one of which is the manufacture of

amazon stone beads. There are only two localities where amazon stone has been found, and one of those is Tereneghei in NE. Tibesti. It is indeed not impossible that Tibesti holds the clue to the origin of the African strain in the civilization of ancient Egypt. Mr Cline's wish is heartily to be echoed—or, better still, may there, before long, be a joint Anglo-French expedition to this distant but promising area. Meanwhile we should be grateful to both the author and the editor of the series for drawing attention to a territory which is so little known and yet is probably of the greatest importance to the prehistory of North Africa. A. J. ARKELL.

SWEDISH ARCHAEOLOGICAL BIBLIOGRAPHY, 1939–1948. *Ed. by* SVERKER JANSON *and* OLOF VESSBERG. 360 *pages. Uppsala* 1951. 25 *Swedish Kroner.*

One of the commonplaces in archaeological research is the difficulty of tracing the papers of significance to any subject among the Proceedings of various societies. The Swedish Archaeological Society has not only produced an invaluable summary of works relating to Swedish archaeology for the war and immediate post-war years, but has also laid a challenge to other countries to publish a handbook and guide to the recent contributions to archaeological research in their own region.

The papers summarized or referred to in the bibliography total no less than 1244 and cover those written by Swedes and others on subjects of direct or indirect importance to Swedish archaeology as well as those by Swedish scholars on foreign spheres, classical archaeology, etc.

The book is in four main sections: Bibliography and History of Archaeology, Prehistoric Archaeology, Medieval Archaeology and Foreign countries, and these are subdivided under subjects and periods. Every aspect of research has been included, as is indicated, for example, by the subdivisions of the subsection 'Church Works of Art' in the Medieval section: (1) Mural paintings, (2) Baptismal fonts and other stone work, (3) Triptychs, Icons and other wood carvings and paintings, (4) Stained glass paintings, (5) Tombstones, Mausoleums, etc., (6) Textiles, (7) Church fittings (communion silver, ciboria, reliquaries, thuribles, church bells, pilgrim badges, etc.), (8) Iconography.

As stated in the preface 'it is not claimed that the bibliography will be absolutely complete. Its authors themselves have chosen the works they have treated, and there are, therefore, certain variations in the selection and presentation of the different sections of the bibliography'. There is no doubt, however, that all the papers of any real significance are included. The different sections are written as a commentary on the problems of the subject in question and give the main arguments of the papers quoted. It is, of course, on the results of researches into the minutiae of archaeological remains that the broad outlines of prehistory and early history are based, and by their method of compiling the papers on detailed research the editors have produced not a mere reference list of books but a consecutive narrative that can indeed almost be read as an archaeological history of Sweden.

The absence of an index is perhaps to be regretted, but the bibliography is so arranged that it is comparatively simple to find the references to the subject required. The book is written in English and is, therefore, of great value to scholars without a knowledge of Swedish who would otherwise have great difficulty in finding comparative material in the Swedish literature.

It is intended to publish similar bibliographies possibly every five years, and if this hope is fulfilled the current archaeological literature of Sweden will become more easily accessible to scholars than that of any other area. The bibliography will be warmly

welcomed by all students of Scandinavian archaeology and should find a place in all archaeological libraries. Perhaps we may also express the hope that a similar compilation of British research papers will follow as a result of the lead given by our Swedish colleagues. S.E.T.

SAXON ARCHITECTURE AND SCULPTURE IN HAMPSHIRE. *By* Arthur R. Green *and* Phyllis M. Green. *Warner and Son Ltd., Winchester* 1951. *Price* 12*s* 6*d*.

This is an admirable little book. The body of the book consists of a series of notes on the sixteen churches in Hampshire which have structural remains of Pre-conquest date. These are arranged alphabetically. There follow sections of notes on the sculptured Roods, i.e. representations of the Crucifixion, on the remains of crosses, on two sepulchral monuments, a grave slab and a memorial headstone and on the Saxon Sundials. A note on the well known miniature triangular ivory carving in the Winchester Museum is added for good measure.

The notes are well put together and summarize admirably the different published points of view of controversial examples. They are properly annotated and there is a bibliography. The plates are well reproduced and there are twenty of them. The text figures are adequate except for the plans which are extremely diagrammatic. No indication is given of the thickness of the walls which are shown by single lines solid or dotted. More substantially drawn plans would have greatly enhanced the value of the book. It is unfortunate also that no size is given of either the carved fragments in the Tudor House Museum at Southampton (though what seems to be a scale is just visible at the bottom of the photograph reproduced) or of the grave slab at Weyhill.

This is in short a book to be grateful for and it would be a very good thing if more such could be completed for other counties. The two new, or nearly new, examples published, the Southampton fragments and the Weyhill slab, especially the former, are considerable additions to our knowledge. The section on Sundials, a subject on which the Authors have long specialized, with its succinct introductory paragraphs is a particularly welcome feature of the book. G. Webb.

ROMAN ANNIVERSARY ISSUES. *By* Michael Grant. *Cambridge University Press*, 1950, *pp.* xxiv, 204 *with two plates*. 21*s net*.

Professor Grant describes his book as ' an exploratory study of the numismatic and medallic commemoration of anniversary years, 49 B.C. to A.D. 375 ' and his purpose is to show that a large number of Roman imperial coins and medallions owe their types to coincidences in date with important anniversary years. Isolated instances of numismatic commemoration of anniversaries of notable events have already been identified by authoritative writers on Roman coins. They include the centenary issues of Vespasian of A.D. 69–71 and 73–74, recalling the victory of Actium and the ' restoration of the Republic ' in 27 B.C. Only six events have hitherto been associated with commemorative issues and the number of coins concerned has been few. Professor Grant extends the principle over the whole range of imperial coinage and attempts to show that some seventy different events and occasions were celebrated, often repeatedly on successive anniversaries, so that hundreds or even thousands of coins and many medallions would be brought into relationship. On this view the dates of particular issues would be deliberately chosen for their anniversary significance, or, in some cases, coincidences might be utilised for propaganda purposes. Several events therefore might be alluded

to in a single issue. Thus it is claimed that ' the isolated issue of Claudius at Lugdunum recalls the fact that his own birth, 50 years previously, had occurred in the year of the dedication of the Ara Romae et Augusti (10 B.C.)—an event which was also to be celebrated by Carausius on its tercentenary. As well as commemorating the Lugdunum Altar, Claudius commemorates the half-centenary of the altars of Pax, Concordia, Salus and Janus (10 B.C. which had themselves been dedicated on an anniversary occasion) '.

Professor Grant cites many instances of issues in which he finds, in the repetition of types, a composite anniversary reference to events of varying degrees of remoteness, ' Gordian III, in celebrating the three-quarter-millenary of the Republic, follows the precedent of Claudius who had inaugurated the same type (Libertas) on the imperial coinage just two centuries earlier. Then Carausius repeats the ROM.ET AUG. legend, which had last appeared 250 years earlier under Claudius ; he also represents CONSTANT(IAE) AUG. just a quarter of a millennium after the inauguration of the type Constantia by that Gallic born emperor '.

This piling of anniversary upon anniversary with what Professor Grant calls ' a high degree of numismatic self-consciousness ' may appear almost fantastic, but in support of his thesis he calls attention to the meticulous care with which the anniversaries of temple foundations were celebrated, doubtless from the records of the priestly colleges. This aspect of Roman religious thinking has already been stressed by Altheim, and anniversaries of temple foundations would relate to a considerable number of the coins concerned. Moreover the mint at Rome, which was in the temple of Juno Moneta, has a religious character, which extends to coin types and portraits. ' Moneta itself begins, before the death of Caesar, to appear on the coinage (on an anniversary occasion) as a religious concept, and before the end of the next century it has become Moneta Augusti '.

Professor Grant has an exhaustive knowledge of the Roman imperial coinage and supports his interpretation with a formidable body of evidence. Even if in some cases his conclusions appear to go farther than the facts warrant his book presents an important study of an aspect of the Roman coinage that deserves further attention. G.F.F.

NEW LIGHT ON THE MOST ANCIENT EAST. *By* V. GORDON CHILDE. *Routledge and Kegan Paul*, 1952. *Price*, £1 15*s* 0d.

This is the third incarnation of a now famous book. The first was in 1928 ; and in re-reading H. R. Hall's review of it (ANTIQUITY, IV, 247–9) one is impressed by two things—the soundness of his judgment and the expansion of our knowledge during the interval, less than two decades in effect, that has passed since then. The second incarnation in 1934 (ANTIQUITY, IX, 236–7) was, as the author stated, no mere mechanical revision but a new casting ; and this, the third, is the same. These recastings, foreseen by the author as well as by his reviewers, are an inherent necessity during a period when the framework—the chronological succession of cultures—is still being constructed. The additions made in recent years are due as much to an improvement in the technique of oriental excavations as to an increase in their number. Uruk and Hassuna have supplemented the deficiencies of Susa and Kish.

The book is concerned with one of the two most important and crucial problems of prehistoric archaeology—the transition from the hunting and collecting stage to that of food production, which led to the development of civilization. It was Professor Childe himself who, in another book (*Man Makes Himself*, 1936) first made us see the immense significance of the revolution brought about by agriculture ; and in the book before us he describes the successive stages of that revolution. When he first outlined the process

the earlier ones were still undocumented ; in Mesopotamia, as he says, ' the neolithic prelude, previously only a postulate, has begun to take shape since 1941 '. Now at Hassuna and Jarmo* we can begin to see the hunters abandoning nomadism for the more permanent kinds of settlement that food-production made possible ; while the all-important last link, connecting the new regime with the old one, may soon be found in the caves of the northern uplands. Many years ago we suggested that it was here rather than on the plains that that link would be found, for if the last nomads (who were also the first food-growers) lived in caves they would presumably continue to do so for an appreciable time afterwards. ' Dr. C. S. Coon's excavations in a cave south of the Caspian have yielded a sequence beginning with a mesolithic and continued by a neolithic that has not yet connected on to any historically anchored culture-sequence ' (p. 204).

It will be seen that the evidence still supports the priority of Mesopotamian over Egyptian civilization. Jarmo belongs to a pre-pottery stage and the 5th millennium B.C., but it is on the northern foothills; and in the middle of this millennium, if the chronology here tentatively suggested prove acceptable, the first temple at Ubaid in the south was built. At this date the inhabitants of the Egyptian Fayum were still neolithic barbarians. The priority is unlikely to be upset by future discoveries, if only because food-production is likely to have been invented in the region where food-plants grow wild, namely, in the north of the Fertile Crescent. At present one of the most obvious needs is for more excavation of neolithic and mesolithic sites in Africa, and for the radiocarbon dating of more of those already known. The date of the earliest of these sites in the Sahara and the Sudan is still unknown and subject to a margin of error of several millennia.

The format is excellent and a great improvement on the wasteful obesity of the 1934 edition. This 1952 edition, though longer—12 chapters against 10—occupies only 255 pages against the 326 of 1934. It is good to have the footnotes in their proper place again, at the foot of the page and not (as in 1934) at the end of the book. The illustrations have been reshuffled and some new ones inserted. The map, criticized in 1934, has been replaced by two others, which, though an improvement, are rather over-reduced and might be improved. We should like to see more maps that are as aesthetically pleasing as Miss de Cardi's in *Iraq*, XIII, 75. O.G.S.C.

CAVE EXPLORATIONS IN IRAN, 1949. *By* CARLETON S. COON. $10\frac{3}{4}$ by $8\frac{1}{4}$. *pp.* 124. 33 *plates, map, plans, sections. University Museum, Pennsylvania.* $1.50.

This monograph contains the report of a journey in search of caves undertaken from June to October 1949 in the limestone country bordering the Iranian plateau—country which from the point of view of prehistory is virtually unexplored. Dr and Mrs Coon excavated four sites, all in Iranian territory ; Bisitun, 30 miles east of Kermanshah, Tamtama on the west side of Lake Urmia, the Ghar-i-Khamarband, or Belt Cave, on the southern shore of the Caspian Sea, and a rock-shelter at Khunik on the eastern border of the plateau 100 miles from the Afghan frontier. Only in the western part of this area had any previous Palaeolithic finds been made, when in 1928 a joint expedition of the Sladen Fund and the American School of Prehistoric Research dug two caves in the Sulaimani region, Zarzi and Hazar Merd, which yielded Gravettian and Mousterian industries respectively. Of the four caves investigated by the Coons, Tamtama contained a Pleistocene fauna and a fragment of human femur, but a handful only of atypical stone tools, while, at Khunik, Mousterian artifacts were abundant, but lay on the surface of an

* See ANTIQUITY XXIV, 1950, 190–6.

early Islamic village dump, having apparently slipped down from a collapsed cave higher up the cliff. Bisitun and the Belt Cave, however, yielded interesting stratified material.

At Bisitun, which is 4,500 ft. above sea-level, a south-facing cave contained a Mousterian industry closely comparable with that of Hazar Merd, which lies at approximately the same height, 140 miles away to the N.W. There are similar elongated triangular points, often very narrow, about 50 per cent having the striking-platform retouched, and as at Hazar Merd, truly typical racloirs are comparatively infrequent. In both sites the untrimmed material included a high proportion of narrow flakes, some of which can fairly be described as blades. There were no cores at Hazar Merd, and those from Bisitun are not described, and were apparently in large part rejected after counting, so a study of the striking-technique of this industry has yet to be made. It is clear however that many of the points are made on triangular Levallois flakes, and the narrow forms most probably come from double-ended cores. Animal bones were more abundant at Bisitun than at Hazar Merd, but do not add greatly to the list of fauna. The leading forms at all levels are red deer and horse. Coon notes a very high proportion of mere splinters of long bones as compared with those carrying articular surfaces, and puts forward the theory that the cave was a sacred store-house in which splinters and teeth were placed as offerings to represent the game killed, the joints apparently being gnawed on the talus (which was not excavated). This explanation is more ingenious than convincing.

The Belt Cave revealed a very interesting sequence from Mesolithic to Neolithic, the former being of a type which does not tie up with anything so far known in a radius of 500 miles, although it is possible that if the material from the Caucasian caves were available it might throw some light. The flint industry is characterised by rather rough triangles and trapezes, both tending to have the retouched edges concave ; two of those figured might in fact be described as hollow-based arrowheads. Others have a dorsal projection which suggests that they were hafted transversely (a practice which may be related to the considerable number of bird bones found in the cave). Associated with these geometric forms, which are most abundant in the lower levels, are curved blunted-back knives, which increase in the Upper Mesolithic, finely-pointed borers, and end-scrapers. There are no micro-burins, and none of the implements are very small. Bone tools include three rubbers or chisels of deer antler, and some polished antler tips whose use is not obvious. Ornaments consist of pierced land and sea shells, pierced teeth of seal and ass, and two polished stone pendants. Two mortars, with traces of ochre, seem to have utilised naturally shaped stones, and the pestles also look like unshaped pebbles.

The upper layers of the Belt Cave yielded flint sickle-blades and knives, polished stone celts, and a variety of sherds of most periods up to the Islamic ; 174 fragments of poorly baked, soft-centred pottery are however considered to be probably Neolithic. A Carbon 14 analysis of burnt bones from the zone in which this ware alone is found gives a date of about 6135 B.C., but as the C 14 dating for the Upper Mesolithic of the Belt is 8160 B.C., while for the Lower Mesolithic it is 6054 B.C., it is clear that something has gone seriously wrong, and that for this site at least the method cannot serve as a guide.

In the Mesolithic fauna the gazelle predominated, although *Bos primigenius* was also present, and wild sheep and goat began to appear in the later stages. A large and heavy form of *Canis familiaris* occurs at an early stage, recalling that in the Natufian also the only domesticated animal is the dog. The Belt Cave is four miles from the Caspian Sea, and seals (a new species, not the *Phoca Caspica* of to-day) were hunted throughout its occupation, but more especially in the Lower Mesolithic, the proportion of immature animals suggesting that the seals with their cubs were clubbed at their breeding-places.

The Mesolithic of the Belt Cave has nothing in common with the Natufian, which has not so far been found outside Palestine, Syria and Lower Egypt. Nor does it resemble the last stages of Zarzi, geographically much nearer, where the Gravettian gives rise to very small crescentic microliths, button-scrapers and micro-burins. The industry of the Belt may prove to be a specialised culture of the Caspian shore, the product of a mode of life different from that of the mountain dwellers of Kurdistan.

Dr Coon's results are clearly presented, but would be even easier to use if the results from each cave were grouped together, instead of being spread throughout the book. Some of the analytical tables are rather heavy going, but in general they seem to be justified by results, since most of them bring out facts which could not be so convincingly presented by a mere description. We await with interest the results of his second expedition in this region, undertaken in 1950–51. D.A.E.G.

STIERNHOLM LEN, 1603–61. *By* Hans H. Fussing. *Copenhagen, Einar Munksgaard*, 1951. 312 *pp. Price* 35 *Danish Kroner.*

This book contains an analysis and discussion of the annual accounts submitted to the Exchequer by the officers successively appointed by the Crown to take charge of one of the large administrative districts into which 17th century Denmark was divided for fiscal purposes. It is a highly technical study, written in Danish, of an economic system which cannot easily be understood by those unacquainted with the ground. Fortunately for the English reader, an appendix of eight pages gives an English summary of the main points brought out by the accounts. To the student of Danish economic history, for whom the work is intended, this carefully tested material will obviously be of high value. On the other hand, it may disappoint those who approach a book of this kind in the hope of finding an occasional parallel to the social and tenurial peculiarities of the English Danelaw. The system which it describes is an artificial organisation overlying, and to a large extent obliterating the primitive agrarian order of Denmark. Even so, the exaction of rents in kind and labour services from peasants who are clearly independent in their social relationships is worth noting by those who would understand the condition of the medieval sokemen of eastern England. With the possible bearing of his results on problems of English social history the author of this study has, naturally, no concern. What he has produced is an excellent piece of objective research, which will provide a firm basis for future investigation. Frank M. Stenton.

DANSKE OLDSAGER, II, YNGRE STENALDER. *By* P. V. Glob. 139 *pp.*+ 72 *plates. Kobenhavn* (*Gyldendalske Boghandel*), 1952.

In all Europe, Denmark is the land richest in prehistoric antiquities so that Danish types are well fitted to provide a standard series for other regions. And, thanks to the devotion of Danish prehistorians, they are the best published too. Already in 1836 Thomsen's famous *Ledetraad* established the Three Age system to be followed six years later by Worsaae's work, best known here in the English translation, *The Primeval Antiquities of Denmark* (1849). This was followed in 1888 by the first volume of Sophus Müller's *Ordning af Danmarks Oldsager* — an invaluable atlas illustrating all the principal types of Stone Age relics then recognized with a short descriptive text in Danish and a French résumé. Since that date the number of types has enormously increased both by surprising new discoveries and by refinements of classification so that a new edition has become indispensable. The discovery of the Maglemose culture, unsuspected in 1888, and subsequent finds has made it necessary to devote a whole volume to the first

part of the Stone Age, the *ældre Stenalder* of Sophus Müller's atlas, which was edited by T. Mathiassen and published in 1950. To this Glob's work forms the sequel. He illustrates and describes 637 types of the New Stone Age as against the 259 which had sufficed to characterize both the mesolithic and the neolithic in 1888. These are further divided between three main periods—Early, Middle and Late Neolithic—while those of the second period are further distributed between the Passage Grave, Pitted-ware, Battle-axe, Bell-beaker and Boat-axe cultures. Otherwise Sophus Müller's plan is followed save that line-drawings are largely replaced by half-tones and the résumé is in (excellent) English and very much fuller (58 pp. corresponding to 73 pp. of the Danish text !). Since metal was not unknown in 'Neolithic' Denmark, Prof. Glob has very properly included the copper disk from an Early Neolithic grave at Salten and the Middle Neolithic Bygholm hoard, together with a stray halberd and lunula, and figured a number of bronze daggers, celts and pins together with the Late Neolithic objects of stone and bone which often imitate them. Seventeen 'objects from various periods' figured at the end include a genuine trough quern traceable as early as the Middle Neolithic and an alder dug-out canoe of like antiquity. The English description does not include the site or context of each specimen but this can easily be read off in the corresponding Danish text. Many of the objects illustrated are not otherwise accessible and English readers will be surprised to find something familiar, for instance in No. 433—a four-footed food-vessel !

V. Gordon Childe.

MONASTIC SITES FROM THE AIR. *By* David Knowles *and* J. K. St. Joseph. *Cambridge University Press*, 1952. £2 15*s* 0*d*.

This splendid picture-book contains 128 air-photographs, taken by Dr St. Joseph, of monastic buildings or sites in England, Wales and Scotland. They are grouped in the Orders to which they belong, and the text follows the plates, as it should ; that is to say, each plate has its accompanying description with or opposite it. These descriptions are terse and in every way admirable ; they give just so much information as the reader requires, including always the relevant dates and some account of the topography. The bibliographical information does not pretend to be complete but seems quite adequate. The authors have produced a book which is both easy to use and pleasant to look at. The only omissions that one might criticize are of the points of the compass (though these are given in the text) and map-references, but here again the text always gives enough to locate the position, and there is an index-map of sites at the end of the book. Moreover the recently published Ordnance Survey map of Monastic Britain, which all serious students will possess, marks all these (and many more) remains, and will be found a useful adjunct to this book.

There is no other book which covers the same ground, and it is fortunate that the descriptions should be by Professor Knowles whose great learning and authority in monastic studies is happily combined with a pleasant and attractive style. It would have been easy for one less urbane than he to fall foul of the orgy of vandalism released by the Reformation, of which the illustrations are evidence. One does not need to be a Catholic to be stirred to anger by the wanton destruction of so much that was fine and beautiful, and to one who is, that destruction must be even more painful. There are, however, in this book instances of the re-occupation by monastic Orders of some of the earlier sites that had become ruined. These are as yet fewer in number than lay occupations, but they are, in the opinion of many, equally regrettable. The case of Fountains Abbey is mentioned where public opinion was roused and the scheme dropped. One can readily

understand the motives which lie behind the policy of re-occupation ; but at this late date, after a break in building traditions of some four centuries, the old buildings should surely be allowed to rest in peace, and a new foundation, if it must be created, should be (as at Quarr) adjacent to them, or elsewhere altogether.

These oblique air-views are probably the best pictures that could be taken of the ruins, and it is no detraction from their excellence to say that, good though they are, they do not as a rule add much to what was already known. Only four in this book are claimed as doing this. One of these is Sempringham ; and the air-view of the site had, for the present writer, another interest also, for it showed how complete has been the obliteration. Those of us who are not specialists are nevertheless familiar, from our readings, with the more famous monastic establishments, even if we know little more than the names ; and it is very interesting to see from their pictures how much or how little now remains.

The book is described as ' the first of a Series of books to be known as *Cambridge Air Surveys*', edited by the authors of this book and Professor Godwin. No doubt there were good reasons for selecting monastic sites for the first of the Series; but those who know what vast riches are crowded together in a small space—far *too* small a space—in the Cambridge air-photographic archives will await with eager expectation the appearance of the next volumes. We do not know what these will be, but a volume on Roman sites and another on prehistoric ones are obviously indicated. The as yet almost unpublished wealth of the Fenland in Roman-British field systems will one day, we hope, be adequately recorded in the series ; but they require verticals rather than obliques. Cambridge has now become one of the leading archaeological centres of Britain. The official status given to archaeological air-photography was a wise and far-seeing act ; for the subject is one that requires access to a large library and map-collection. Conversely, a Faculty of Archaeology nowadays is incomplete without a collection of air-photographs to draw upon for teaching purposes (lantern slides especially). Its students, who will some day occupy leading positions, must have access to such a collection or lose a vital part of their training. The inauguration of this new series by the Cambridge University Press is proof enough that Dr St. Joseph's little Department has already amply justified its existence. O.G.S.C.

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